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Who Hates Magic? Exploring the Loathing of Legerdemain

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Abstract

Magic is an ancient, universal, diverse, and wide-ranging domain of artistic performance. Despite its worldwide popularity, however, any working magician will tell you that some people really hate magic. They seem to see every illusion as a challenge to be solved and every performance as an insult to their intelligence. A distinctive feature of magic is that it seeks to create emotions through deception—practitioners create the illusion of the impossible, which can provoke intense curiosity and uncertainty, but will not explain the method—so disliking magic could stem from a few factors: (1) low propensity for curiosity, awe, and wonder; (2) high needs for certainty and cognitive structure, which make a person averse to uncertainty and to events that violate one's mental models of the world; and (3) high needs for social status and dominance, which make a person averse to being manipulated. The present research explored people's attitudes toward magic with a brief Loathing of Legerdemain (LOL) scale. In a multinational sample of 1599 adults, people who hated magic were marked by (1) lower Openness to Experience and lower awe-proneness; (2) higher dogmatism, intolerance of uncertainty, and personal need for structure; and (3) higher socially aversive traits, such as lower Agreeableness, greater interpersonal dominance, and higher psychopathy. We suggest that magic is an interesting case for researchers interested in audience and visitor studies and that the psychology of art would benefit from a richer understanding of negative audience attitudes more generally.

Keywords: magic; personality; curiosity; awe; intolerance of uncertainty; dark tetrad

Who Hates Magic? Exploring the Loathing of Legerdemain

From elaborate stage productions with assistants and tigers to close-up magic with coins and cards, magic is an enormously diverse form of artistic performance. Like music, or theater, or any number of performing arts, magicians seek to elicit a wide variety of emotions and reactions from audiences. Magicians imagine something impossible and then figure out how to do it, or to appear to do it. Depending on a magician's creative vision, creating a magic act will require many creative and technical skills, such as acting, comedy, music, choreographed movement and dance, improvisation, set design, lighting, carpentry, mechanics, metal working, engineering, chemistry, physics, physiology, psychology, and occasionally animal wrangling (e.g., Armstrong, 1983; Kuhn, 2019; Lippy & Palder, 1984; Sharpe, 1988; Tarbell, 1944). The enduring popularity of magic—defined here as a performing art practiced around the world for entertainment—is a testament to how much people value feeling the awe, wonder, surprise, joy or fear that seeing a show can bring. But not everyone likes magic. Some could take it or leave it, some dislike it, and—as all magicians know—some despise it and seem insistent on ruining the experience for everyone else.

“Who hates magic?” is an interesting question in its own right. Just as it is interesting to figure out who finds art museums insufferable and who cannot stand Broadway musicals, understanding who loves and hates magic—an ancient and popular form of performance—is interesting to psychologists who study how audiences understand and experience creative and emotional performances. And people's love and loathing of magic is a window on bigger questions. Many art forms seek to evoke feelings of awe and wonder and to unsettle the audience's notions of what the world is like, but creating experiences of epistemic emotions like interest, confusion, fascination, surprise, and wonder by breaking the rules of nature is central to magic. Finally, knowing who is likely to hate magic is a pressing practical issue for magicians, particularly those practicing magic close-up in bars, clubs, parties, and public spaces. A Broadway producer, for example, does not have to deal with haters at the show—throwing rotten

fruit at the theater has gone out of style, and the cast and crew of *Hamilton* is not performing highlights at the social hour of a corporate retreat and enduring heckling from drunken logistics supervisors.

In the present research, we explored people's emotionally charged negative attitudes toward magic. This project was guided by a fusion of our interests: psychologists interested in the interface of personality, creativity, and the arts, and a practicing magician interested in learning more about her audiences and providing the magic community with insights into how their work may be received, and which may inform their performances and business, so magicians can entertain even those who are not generally disposed to be fans of the art.

Our psychological and magic backgrounds suggested a few fruitful regions to explore. The first area is the family of constructs linked to curiosity, wonder, and awe. People high in Openness to Experience, for example, are curiosity prone: it takes relatively little to spark their interest, and they value experiences that are new, complex, and thought provoking (Christensen et al., 2019; Sutin, 2017). In aesthetics research, people high in Openness to Experience are marked by a propensity to experience emotions related to wonder and awe (Nusbaum & Silvia, 2014; Schlotz et al., in press). For example, they are more likely to experience chills and goosebumps (Colver & El-Alayli, 2016; Nusbaum et al., 2014), to report feeling like crying from music because it was beautiful and inspiring (Cotter et al., 2019; Silvia & Cotter, 2018), and to report greater awe and wonder in response to nature (Silvia et al., 2015). When looking at people who hate magic, individual differences related to variation in curiosity and wonder seem like low-hanging fruit.

The second region likely to predict an affinity for magic performances involves how well people tolerate experiences that create uncertainty and violate their mental models of how the world works. Research on motivated cognition has examined a family of variables associated with preferring cognitive stability and certainty. People high in intolerance of uncertainty (Birrell et al., 2011; Carleton et al., 2007) and personal need for structure (Neuberg & Newsom,

1993; Thompson et al., 2001), for example, prefer stability and predictability and are distressed by situations that create uncertainty. Other factors, such as dogmatism, reflect mental rigidity. Dogmatic people's mental models of how the world works are relatively black-and-white, highly resistant to change, and held with great certainty (Duckitt, 2009; Rokeach, 1954; Shearman & Levine, 2006). It seems likely that people who crave certainty and resist experiences that violate their knowledge schema would find magic irritating. Not only does magic deliberately violate people's models of how the world works by exposing them to seemingly impossible events, but the performers deliberately sustain the uncertainty by withholding the keys to understanding how they create their illusions.

Finally, the third area involves interpersonal dominance. One way to perceive a performance is that the performer deliberately deceives the audience, apparently defying the laws of nature. As practicing magicians know, a certain kind of person cannot handle not being let in on the secret—they can get boorish, hostile, and pushy when they feel they are being manipulated or made to look foolish, or when their desire to be let in on the secret method goes unsatisfied. To a personality psychologist, this sounds like the well-known family of traits connected to a need for dominance and social status in interpersonal interactions. These socially offensive, “dark tetrad” traits—Machiavellianism, narcissism, psychopathy, and sadism—cluster in the low Agreeableness and low Honesty-Humility regions of personality trait models (Lee & Ashton, 2014; Pailing et al., 2014). Researchers have suggested that these traits, while distinct, share key features, such as being exploitative (Jonason et al., 2009) and callous (Jones & Figueredo, 2013), and they cluster in the hostile, moderately dominant region of the interpersonal circumplex (Southard et al., 2015). Socially offensive traits linked to social conflict and dominance thus seem like a natural place to look to find people who dislike watching a performance art in which they feel fooled by a more dominant person who controls the interaction.

In a set of four samples of adults (total $n = 1599$), we measured people's emotional

attitudes toward magic with the Loathing of Legerdemain (LOL) scale, a brief attitude scale we developed for measuring how much people love or hate magic (see Table 1). As a set, the studies included a wide range of constructs focused on wonder, uncertainty tolerance, and interpersonal disagreeableness to provide a broad, well-rounded look at factors that may predict attitudes toward magic. Beyond our broad intuitions, the project was essentially exploratory.

Method

Participants

We collected four similar samples of adults, which are described and reported as a set for space and simplicity. All samples completed the LOL attitude scale along with different sets of measures. Sample 1 consisted of 305 English-speaking adults—153 women, 152 men—ranging in age from 18 to 70 years old ($M = 33.73$ years, $SD = 13.04$, $Mdn = 30$) who were recruited from the Prolific.co survey panel. Sample 2 consisted of 385 Polish-speaking adults—205 women, 180 men—ranging in age from 18 to 84 years old ($M = 36.74$ years, $SD = 14.28$, $Mdn = 34$) who were recruited from the Syno International online survey panel. Sample 3 consisted of 606 English-speaking adults—308 women, 296 men, 2 omitted—ranging in age from 18 to 76 years old ($M = 34.92$ years, $SD = 13.14$, $Mdn = 32$), again recruited through Prolific.co. Finally, Sample 4 consisted of 303 English-speaking adults—155 women, 146 men, and 2 omitted—ranging in age from 18 to 67 ($M = 34.83$, $SD = 11.78$, $Mdn = 33$), also from Prolific.co. The English-speaking samples could reside in any country so long as they spoke English as their first language; the most common locations were the UK and USA. We collected several large samples instead of one huge sample because (1) we think that surveys given to online pools maintain participants' motivation and attention better when they are brief, and (2) collecting many samples allowed us to include the LOL scale as a secondary aspect of ongoing studies with relevant predictors.¹

¹ These final samples were winnowed from larger samples from which people were excluded for inattentive and careless responding (between 5.5% to 9.5% excluded), in nearly all cases for missing a

Based on the policies of the survey panels, participants were paid at a per-minute rate of at least \$6.50 an hour, and all participants provided informed consent prior to participation. In summary, our overall sample is large (total $n = 1599$), almost evenly balanced between women ($n = 796$) and men ($n = 799$), and diverse in terms of age, language, and cultural background.

Measures and Materials

Table 2 displays which measures were included in each sample. We invite researchers to explore and use the materials and data at Open Science Framework (<https://osf.io/6cqev/>) for their own purposes.

Loathing of Legerdemain (LOL) scale. People's emotional attitudes toward magic were captured with a brief, four-item attitude scale that we developed. Table 1 lists the instructions and items. The final four items were winnowed from a larger pool of items based on psychometric and practical criteria, such as achieving a unidimensional final scale, avoiding redundancy in item wording, reducing local dependence between item pairs, fostering ease of translation to other languages, omitting any items that would be too easy or too hard to endorse, and achieving a reasonably low reading level. The items are scored so that higher average scores indicate more negative attitudes toward magic.

Our intent was for the LOL to capture intense emotional attitudes at the global level (attitudes toward magic overall) rather than specific domains, such as attitudes toward types of magic (e.g., stage magic, close-up magic), styles of performance, types of objects or props (e.g., magic involving coins, cards, or tigers), or performance contexts (e.g., magic at a ticketed venue vs a cocktail party). In addition, we sought to tap intense attitudes at both poles of the valence spectrum. In particular, we wanted to avoid a common ambiguity in attitude scales that have only positively worded items. When a respondent selects *strongly disagree* for an item like "I enjoy jazz music," for example, it is hard to know if they are indifferent to jazz, if they dislike it,

directed response item. Some of the non-LOL measures in Samples 1 and 2 have been included in another project on humor self-concepts (Silvia et al., 2021).

or if they hate it. The LOL, in contrast, has both positively and negatively worded items that afford endorsing extreme attitudes (e.g., loving or hating something instead of merely liking or disliking it). This ensures that each pole has a well-defined emotional meaning and that both high and low scores can be interpreted as intense attitudes.

Age and gender. Participants noted their age (in years) and their self-described gender (0 = *male*, 1 = *female*, plus an open-ended response option).

Big Five personality traits. Sample 1 measured the Big Five personality traits with an English version of the 30-item BFI-2 (Soto & John, 2017), which measures Neuroticism ($\alpha = .85$), Extraversion ($\alpha = .72$), Openness to Experience ($\alpha = .72$), Agreeableness ($\alpha = .74$), and Conscientiousness ($\alpha = .79$) with six items per factor. Sample 2 measured the same traits using a Polish version of Goldberg et al.'s (2006) 50-item BFI-50, which includes 10 items per factor (Strus et al., 2014; for NEOAC, $\alpha = .91, .91, .74, .83, .81$). Both scales use a 5-point response format.

Awe-proneness and curiosity. To assess proneness toward awe-related states, we included the Unusual Aesthetic Experiences scale (Silvia & Nusbaum, 2011) in Sample 3. This scale assesses how often people experience chills and goosebumps, feel absorbed and immersed, and feel touched and like crying in a specified domain. We used music as the domain because it is probably the most common and relatable context for experiencing these states (Nusbaum & Silvia, 2011). People were asked, "When listening to music, how often do you..." followed by items capturing *chills* (e.g., "get goose bumps"; 3 items, $\alpha = .87$), *absorption* (e.g., "feel a sense of awe and wonder"; 5 items, $\alpha = .85$), and *feeling touched* (e.g., "feel touched"; 2 items, $\alpha = .60$). The items used a 5-point response format (1 = *Never or rarely*, 5 = *Nearly always*). Trait curiosity was measured with the Curiosity and Exploration Inventory-2 (CEI-2; Kashdan et al., 2009), which assesses how much people seek and embrace novelty, variety, and growth in their lives. It has 10 items ($\alpha = .88$) that use a 5-point (1 = *strongly disagree*, 5 = *strongly agree*) response format.

Needs for certainty and structure. In Sample 4, a cluster of scales tapped different aspects of needs for certainty and structure. Dogmatism—a complex concept that involves being relatively closed-minded, set in one’s opinions, and resistant to information that contradicts one’s beliefs—was assessed with a brief dogmatism scale (Shearman & Levine, 2006) that yields a single factor. The 11 items are completed with a 5-point (1 = *strongly disagree*, 5 = *strongly agree*) response format ($\alpha = .82$).

The 12-item short form of the Intolerance of Uncertainty Scale (Carleton et al., 2007) was used to assess the tendency to avoid uncertain situations and to find ambiguous situations threatening. People completed the items with a 5-point (1 = *strongly disagree*, 5 = *strongly agree*) response format ($\alpha = .89$).

The need for structure was assessed with the Personal Need for Structure Scale (Thompson et al., 2001), which has two main facets (Neuberg & Newsom, 1993): the *desire for structure* (preferring order, routine, and planning; 4 items, $\alpha = .73$) and the *response to lack of structure* (feeling irritated and upset by unexpected, unpredictable, and unstructured events; 7 items, $\alpha = .84$). Although most studies use just the overall score, the two facets have important differences and can diverge, so recent work encourages researchers to separate them (Cavazos et al., 2012). People completed the items with a 6-point (1 = *strongly disagree*, 6 = *strongly agree*) response format.

Interpersonal dominance and social status. Interpersonal dominance and perceived social status were assessed in Sample 4 with the Dominance-Prestige Scales (Cheng et al., 2010), which are rooted in a model of social rank (Cheng et al., 2013) that emphasizes two routes to social status: being admired and respected by others (prestige; 9 items, $\alpha = .86$), and intimidating and controlling others (dominance; 8 items, $\alpha = .84$). People completed the items with a 7-point (1 = *not at all*, 7 = *very much*) response format.

Dark and light interpersonal traits. To get a well-rounded view of interpersonal antagonism, we assessed both dark and light interpersonal traits. In Sample 2, people completed

a measure of the dark triad—Machiavellianism ($\alpha = .79$), narcissism ($\alpha = .77$), and psychopathy ($\alpha = .65$)—using the Polish adaptation of the 12-item Dirty Dozen Scale (Czarna et al., 2016; Jonason & Webster, 2010). As an extension, Sample 3 assessed the dark tetrad, which includes a fourth factor of sadism (e.g., “I really enjoy violent films and video games”; $\alpha = .63$)—the enjoyment of causing or observing another’s suffering (Paulhus et al., 2020)—alongside Machiavellianism (e.g., “Avoid direct conflict with others because they may be useful in the future”; $\alpha = .42$), narcissism (e.g., “I’m likely to become a future star in some area”; $\alpha = .72$), and psychopathy (e.g., “People often say I’m out of control”; $\alpha = .62$). The dark tetrad traits were assessed with the H8 scale (Webster & Wongsomboon, 2020), a 16-item form of the SD4 (Paulhus et al., 2020), using a 5-point response format.

On the brighter side, the Light Triad Scale (Kaufman et al., 2019) was used to assess the Light Triad: *faith in humanity* (seeing people as basically good, e.g., “I tend to see the best in people”; $\alpha = .76$), *humanism* (valuing the dignity and worth of all people, e.g., “I tend to treat others as valuable”; $\alpha = .64$), and *Kantianism* (treating people as ends rather than means, e.g., “When I talk to people, I am rarely thinking about what I want from them”; $\alpha = .43$). The scale has 12 items completed using a 5-point response format.

Results

Psychometric Nuts and Bolts

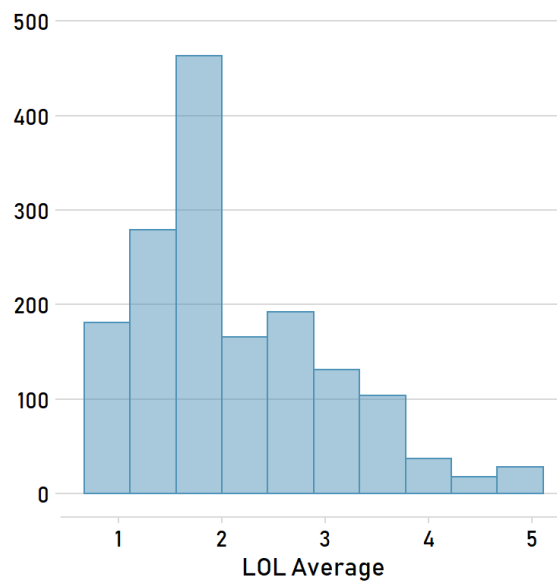
How well did the LOL fare psychometrically? Factor analyses on the full sample of 1599 people conducted in *psych* (Revelle, 2021) indicated that the four items formed a single factor according to parallel analysis and the MAP criterion. Internal consistency was high (Cronbach’s $\alpha = .90$, Omega-hierarchical = .92). An item response theory analysis of the 4-item LOL scale, using a generalized partial credit model with TAM (Robitzsch et al., 2021) in R 4.1 (R Core Team, 2021), found excellent item fit, ordered thresholds, minimal local dependence, and high latent score reliability (EAP reliability = .89). There was no differential item functioning based on either gender or language, indicating invariance of item parameters across these groups. A

CFA in Mplus 8.1 found excellent fit for a model with the four items as indicators of a latent LOL attitude variable ($\chi^2(2) = 5.09, p = .079, CFI = .998, RMSEA = .031$ [90% CI: .000, .066], SRMR = .007). The raw data and annotated R code are available online for researchers interested in delving deeper in the psychometric nuts-and-bolts (<https://osf.io/6cgev/>).

Loving and Loathing Magic

The sample overall liked magic: when the four LOL items were averaged, the median score was 2 ($M = 2.17, SD = .89$). As Figure 1 shows, however, the sample's scores covered the full range. While it will be reassuring to magicians to see the large number of people who loved magic—people who gave a 1 to all items—the high end of the scale had a small but distinct bump of “haters.”

Figure 1. Distribution of LOL average scores ($n = 1599$)



Who Hates Magic?

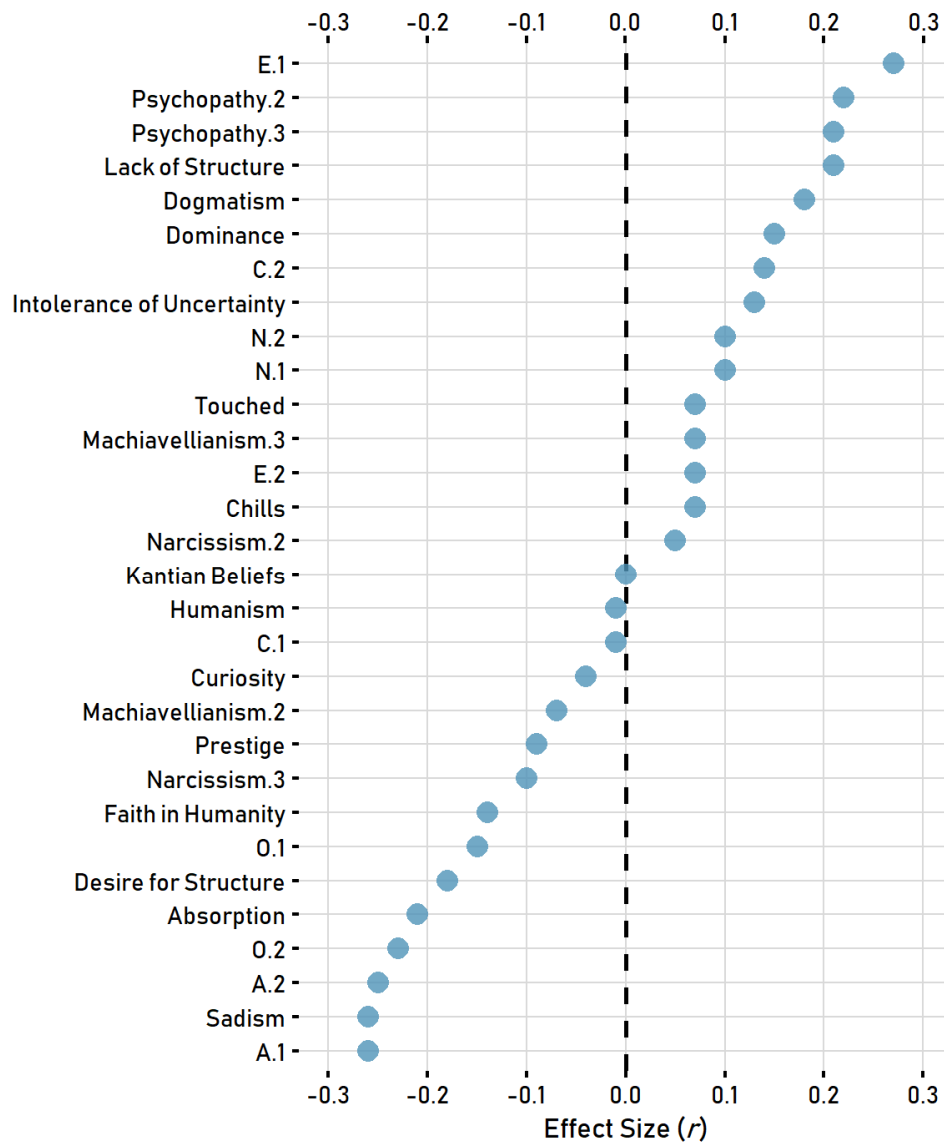
We explored predictors of magic attitudes with structural equation models in Mplus 8.1, using maximum likelihood with robust standard errors. In all the models, LOL was treated as a

latent outcome variable with its four items as indicators; the predictors were modeled as latent variables, indicated by their respective items, as well.² All effects are standardized regression weights in the r metric (0.10/0.30/0.50 for small/medium/large) except for the effects of gender, which are Y -standardized effects in the Cohen's d metric (0.20/0.50/0.80 for small/medium/large). Table 2 summarizes the effects and their 95% confidence intervals; Figure 2 displays the pattern of correlations between the LOL and the many measures of personality and individual differences, from the most positive to the most negative effect size.

Age and gender. Because age and gender were available for all four samples, the samples were combined for analysis. Age was essentially unrelated to LOL scores ($\beta = .01 [-.04, .06]$, $p = .651$). Gender, on the other hand, showed a small gender difference ($\beta_Y = .28 [.18, .38]$, $p < .001$). Given the scoring of gender and the LOL, this effect means that women had more negative attitudes toward magic ($M = 2.28$, $SD = .94$, $n = 796$) than men did ($M = 2.05$, $SD = .83$, $n = 799$), but the small effect size means that the gender difference is slight.

² The one exception was the Polish version of the Dark Triad scale, which had convergence problems, so the dark triad variables are modeled with the observed scores.

Figure 2. A visual summary of the relationships (in the r metric) between LOL scores and measures of individual differences.



Note. For variables measured in several samples, the number following the variable name refers to the sample number. The Big Five factors are abbreviated as N, E, O, A, and C. The dots represent effect sizes, in the Pearson r metric, for the relationship between a predictor variable and LOL scores, sorted from the most positive to the most negative effect size.

Openness to Experience, awe proneness, and curiosity. We first explored the cluster of traits related to openness, awe, and curiosity. Openness to Experience had small correlations in both the English ($\beta = -.15, p = .057$) and Polish ($\beta = -.23, p = .001$) samples: people high in Openness to Experience were significantly more prone to report liking magic.³ To focus on awe-related experiences specifically, we examined the three subscales of the Unusual Aesthetic States scale. People's proneness toward feeling chills ($\beta = .07, p = .423$) and feeling touched ($\beta = .07, p = .610$) did not notably relate to LOL scores, but proneness to absorption did ($\beta = -.21, p = .038$). People who reported more frequent absorption experiences—marked by scale items about experiencing awe and wonder, losing track of time, and feeling like they are somewhere else—had more positive attitudes toward magic. Finally, curiosity measured by the CEI-2 did not relate to magic attitudes ($\beta = -.047, p = .561$).

Dogmatism, structure, and certainty. The family of traits related to handling uncertain and unpredictable events showed consistent links to attitudes toward magic. First, people high in dogmatism—a trait associated with rigid concepts and avoiding information that goes against one's beliefs—had significantly more negative attitudes toward magic ($\beta = .18, p = .003$). A similar relationship appeared for people high in intolerance of uncertainty, who had more negative attitudes ($\beta = .13, p = .063$).

Finally, the two facets of personal need for structure had distinct links to magic attitudes in seemingly conflicting directions. People high on the “response to lack of structure” facet (i.e., finding unpredictable, uncertain situations irritating and stressful) significantly disliked magic ($\beta = .21, p = .042$). On the other hand, people high on the “desire for structure” facet (i.e., preferring predictable routines and planning in daily life) tended to like magic ($\beta = -.18, p =$

³ For the remaining Big Five traits, Neuroticism had small effects in both samples ($\beta = .10, p = .206$; $\beta = .10, p = .162$). Extraversion ($\beta = .27, p = .002$; $\beta = .07, p = .403$) and Conscientiousness ($\beta = -.01, p = .912$; $\beta = .14, p = .027$) had inconsistent effects (see Table 2).

.087).

Interpersonal dominance and antagonism. Finally, we explored the antisocial and prosocial traits: interpersonal dominance, Big 5 Agreeableness, the dark triad and dark tetrad traits, and the light triad traits. First, Agreeableness had a negative relationship in Samples 1 ($\beta = -.26, p = .002$) and 2 ($\beta = -.25, p = .002$): people on the Disagreeable end were more likely to dislike magic.

Prestige—social status founded in admiration, respect, and popularity—was not associated with LOL scores ($\beta = -.09, p = .233$), but dominance—social status gained by intimidating and controlling others—had a significant link ($\beta = .15, p = .022$). People high in interpersonal dominance had more negative attitudes toward magic.

For the dark traits, neither Machiavellianism ($\beta = -.07, p = .387$; $\beta = .07, p = .474$) nor narcissism ($\beta = .05, p = .490$; $\beta = -.10, p = .204$) had a notable relationship with LOL scores in either sample. Psychopathy, however, emerged as a significant predictor in both Sample 2 ($\beta = .22, p = .002$) and 3 ($\beta = .21, p = .021$). People higher in psychopathy—a trait marked by impulsivity, recklessness, and lack of empathy—were more likely to hate magic.

Only Sample 3 measured the full dark tetrad, which includes sadism. Intriguingly, sadism had a significant negative relationship ($\beta = -.26, p = .002$) with LOL scores. People higher in sadism—a trait marked by the enjoyment of causing or observing another's discomfort or pain (Buckels et al., 2013)—were more likely to love magic.

Regarding the prosocial traits, nothing appeared for humanism ($\beta = .01, p = .955$) or Kantianism ($\beta = .00, p = .988$), but there was a marginal negative effect size for faith in humanity ($\beta = -.14, p = .087$). People with less faith in humanity were slightly more likely to dislike magic.

Discussion

Magic, an art form practiced around the world for entertainment purposes, is an ancient performance art. Historians have found descriptions and representations of magic in ancient

Egypt (circa 1700 BCE, in the Westcar Papyrus), China (in scrolls dated the year 0), Spain (circa the year 0, in the writings of Seneca the Younger), and Athens (circa 200 CE, in the writings of Alciphiron; see Christopher, 1973). Nevertheless, it has attracted relatively little attention in psychology (see Jastrow, 1896; Kuhn, 2019; Kuhn et al., 2016; Stebbins, 1984; Triplett, 1900).

In this study, we asked participants about magic as though it was one unified art. There is, however, a huge spectrum of kinds of magic performances, just as there is a huge spectrum of kinds of music or theater. There is also a wide variety in the quality of magic performances, just as there is in music or theater. While we are aware of no formal audience research on the topic, it is widely believed in the magic community that audiences generally view the art as unified because they rarely have sufficient education in the art to differentiate between the various specialties and qualities of performance. For example, while someone might describe their friend who “likes to do karaoke” differently than a singer with multiple platinum records, it is likely someone would describe both David Copperfield and an uncle who pulled a quarter from their ear as “magicians.” There are also differences in technique, skills, and audience experience between performances by magicians who perform large illusions, mentalism, sleight of hand, among other genres of magic, just as there are differences between musicians who play classical oboe, electric guitar, and Caribbean steel drums, but magicians often pull from multiple disciplines in a show, and it is believed audiences often do not usually distinguish between them. Accordingly, and for ease of research and discussion, we refer to “magic” but understand that participants may have different types of performers or performances in mind when they hear the word, just as if we were to ask their opinion on “music.”

A central concern of most modern magic performers is entertaining and elevating the audience through experiences of surprise, amazement, and wonder. While other magicians seek to evoke other emotions, those are the most common. Magicians achieve these goals through self-conscious deception: the performer and the audience both know that trickery and pretense are involved, but the performer withholds the secret method from the audience. To enjoy a

magic show requires an act of faith, a mental trust fall, where the audience chooses to believe the performer who has promised to lie to them to provide an experience of joy and wonder. Many arts require audience members to suspend their disbelief, and not all spectators can, but few people actually get angry that movie actors can't step off the screen or that stage actors in a play are not truly in love.

This mix of emotional wonder, prolonged uncertainty, and interpersonal manipulation, based on our collective backgrounds in psychology and in the practice of magic, suggested three broad internal sources of variation in people's attitudes toward magic. The first factor involved curiosity and wonder. People with more hostile attitudes toward magic were lower in Openness to Experience, a complex trait associated with curiosity, novelty-seeking, and a proneness toward experiences of awe-like states (Nusbaum & Silvia, 2014; Silvia et al., 2015). A more focused measure of how often people experience awe-like states from music (Silvia & Nusbaum, 2011) found that people who disliked magic were likely to have lower absorption scores, a subscale with items referring to experiencing awe, losing track of time, and feeling immersed in an event.

The second factor involved needs for cognitive certainty and structure. People high in dogmatism had more negative attitudes toward magic. Psychological models of dogmatism have evolved since Rokeach's (1954) seminal work, and modern models emphasize dogmatism's core features of mental rigidity, resistance to change one's mind, reluctance to seek information that contradicts one's beliefs, and unreasonable certainty about the correctness of one's knowledge (Altemeyer, 2002; Duckitt, 2009; Shearman & Levine, 2006). Magic is fundamentally intended to violate people's models of what is possible in the natural world, which could be off-putting to people with rigid and inflexible beliefs. Similarly, people high in intolerance of uncertainty and in the "response to lack of structure" facet (being stressed by unpredictable and uncertain

events) were more likely to dislike magic.⁴ As we have noted earlier, the uncertainty created by magic performance is distinctive in that someone intentionally provokes uncertainty while also deliberately withholding the information that would reduce uncertainty, so one could see why magic is irritating to people with low tolerance for uncertain situations.

The third factor involved interpersonal disagreeableness and dominance. Because of the peculiar status relationship between the performance and the audience, it's hard to enjoy a magic act unless you can accept the situation's norms and status relations, enjoy the illusion for what it is, and accept that you are being benignly deceived. A certain kind of person feels ignorant and foolish when watching magic and cannot tolerate what they perceive as a magician manipulating and lying to them. We found that several disagreeable traits predicted disliking magic. Two samples found higher LOL scores among people low in Agreeableness, which is marked by uncooperative and socially cold features. Among the light and dark triad traits, people higher in psychopathy—marked by low empathy and high impulsivity and recklessness—and people lower in faith in humanity (i.e., high cynicism about human nature) were more likely to hate magic. Finally, a straightforward measure of interpersonal dominance—needing to be in

⁴ A curious wrinkle in this finding is that the two facets of the Personal Need for Structure scale pointed in different directions. The “response to lack of structure” items capture negative apprehension and wariness of potentially ambiguous situations as well as stronger negative responses when those events occur (e.g., “It upsets me to go into a situation without knowing what I can expect from it”). The finding that people higher in the response to lack of structure facet disliked magic more is consistent with our reasoning that people who dislike magic respond poorly to uncertain and ambiguous events. The “desire for structure” subscale, on the other hand, was associated with a marginal tendency to like magic. Items on this subscale capture attitudes and activities associated with making daily life more routine, consistent, and predictable (e.g., “I find that a consistent routine enables me to enjoy my life more”). The two Personal Need for Structure subscales often diverge (Cavazos et al., 2012), and the subscale that is closest to feeling stressed and upset by unpredictable things correlated with magic attitudes as expected. Nevertheless, it isn't apparent why people high in desire for structure reported enjoying magic more, albeit marginally so. It is possible that a magic show is a way for people who usually desire structure to experience the unexpected in a safe manner, but this idea awaits future research.

charge, preferring to control others rather than to be influenced by them, and attaining social status through intimidation and control (Cheng et al., 2010)—found that people high in dominance liked magic less. This pattern is consistent with the notion that people who find it hard to follow someone else’s lead are more likely to dislike magic.

These three factors are convenient buckets for grouping a large set of traits, but personality research shows that they are linked in many ways. People high in openness to experience, for example, are also less dogmatic and more tolerant of quirky and unfamiliar things (Christensen et al., 2019; McCrae & Sutin, 2009). Likewise, the need for a sense of control—a core of interpersonal dominance—has parallels in models of why some people prefer certainty, structure, and relatively rigid belief systems (e.g., Rokeach, 1980). One issue the present studies can’t easily address is the issue of interactions between factors. Interactive effects are intriguing, but in our project no single dataset measured all the factors with the same scales. Unpacking these issues is a worthy goal for future work.

An interesting wrinkle to these findings involves sadism. The core of “everyday sadism” is enjoying the discomfort of others (Paulhus & Dutton, 2016). This can be observational, such as watching violent sports or situations where people are offended or humiliated, or behavioral, such as verbally abusing others and “trolling” online (Buckels et al., 2014). People higher in sadism were more likely to report enjoying magic. It’s possible that the interpersonal manipulation component of magic—deceiving others and then withholding from them something they are dying to know—has a certain sadistic appeal. It is also possible that sadists enjoy the moments in a magic show where an audience volunteer is surprised or confused. Or perhaps, when they say they like magic, they are referring to a subset of magic, the genre of “torture illusions” that include *Sawing a Woman in Half*, *the Head Chopper*, *Zig Zag Lady*, *the Assistant’s Revenge*, and various escapes from dangerous situations. We are more than a little curious to explore the appeal of magic to sadists further in future research. In the meantime, we expect a rapid increase in magicians applying to perform for dentistry conventions.

We had no expectations for gender, but it was notable that women had more negative attitudes toward magic than men did. The effect size was small, but the size and diversity of the sample imply that it is worth exploring gender further in future work. There could be many reasons for a gender difference in magic attitudes (Gygax et al., 2019). Research on occupational stereotypes has found that people stereotype “magician” as a predominantly male occupation (Misersky et al., 2014). This perception is accurate. While broad demographic data on the magic community is not available, informal reviews tend to estimate that women make up about 10% of magicians. Male magicians often feature women in their performances, either as paid assistants or volunteers selected from the audience (Bruns & Zompetti, 2014). In either case, the woman onstage is often cast in the role of sex object (Fitzkee, 1945), servant, or victim (as in the magic effect “Sawing a Woman in Half” and its ilk). It is commonly believed in the magic community that it is usually advantageous to select a female audience member to participate in the show for several reasons, including that a woman is more likely to be compliant and follow the performer’s instructions. While some magicians, arguably the better magicians, treat their audience volunteers with respect and kindness, too many magicians make the poor choice to treat them in ways or demand participation that make the volunteers uncomfortable. Times are changing and that kind of behavior is being eliminated, but the process is slow and it is not surprising that many women who go see magic shows have a lower opinion of the art than men, who more frequently get to identify with the powerful figure at the center of the performance. Further understanding gendered aspects of magic would be interesting in its own right but also useful practically for performing magicians and magic educators seeking to promote women in magic.

Although our understanding of attitudes toward magic is in its early stages, magicians can make use of some general implications of this work. Part of the craft of magic performance is having a well-honed intuition about the audience and human nature that aids in “reading people” based on non-verbal behavior and appearance (e.g., how people dress and ornament

themselves, hold themselves, and interact with others). Magicians commonly make use of unscientific observation and deductions, figuring out the relative status of people in a group and gauging whether the highest-ranked person in the group wants to be the center of attention or sit back and watch someone else participate. A greater understanding of how audiences see magic and who might be less enthused and why could help magicians tailor their shows to be more appealing to an otherwise reluctant audience and help those people enjoy the show.

For audience members who seem extroverted and unhappy out of the spotlight, for example, a performer can shift the nature of the person's involvement, such as getting them involved, allowing them to feel like they are controlling or directing the trick, and making them feel like the star of the act and center of attention. Similarly, in free-flowing contexts where a magician makes decisions about who to approach and engage (e.g., cocktail parties and receptions at conferences and corporate events), they can use their experience and well-honed intuitions about personality along with psychological insights to predict who is likely to be more interested, engaged, and receptive to being approached, interrupted, and drawn into a performance, and what kind of performance would achieve the best response.

The present findings have some limitations worth noting. Because of time constraints inherent in using remote online panels, the number of constructs included was relatively small, and most of the scales were shorter forms, some of which had weaker internal consistency (especially H8 Machiavellianism and Light Triad Kantianism). This is a trade-off for the benefits of studying large samples that are more diverse, far flung, and representative than lab-based samples of college students. A natural next step for future research would be to dig into people's love and loathing of magic in more detail, perhaps by exploring particular construct regions, the impact of prior experience with the art or magic, or behavioral tasks that could shed light on the experience of magic performances (e.g., Ozono et al., 2021). Beyond that, our samples were from Western cultures, in which magic is well known as a form of artistic and popular entertainment. In societies where stage magic is less well known, it can receive a very different reaction. In

some religious communities, magic can be seen as offensive or a violation of religious norms. Our findings are thus restricted to similar populations in which magic is commonly presented as entertainment.

All artistic domains will have wide-ranging receptions and attitudes from their audiences, but psychology generally knows more about the neutral-to-positive end of the dimension. When conducting research on visitor studies for art museums, science centers, and heritage sites, for example, researchers usually end up with data on people who voluntarily chose to visit (Bond & Falk, 2013; Smith, 2014) and were thus inclined to enjoy the experience. We think there is value in looking past the neutral point of “jazz music is okay” and “art museums aren’t really my thing” to the region of active distaste and hostility. Hostile feelings, unlike neutral ones, usually involve believing that a domain of art violates one’s values and aims to harm, offend, or exclude (Cooper & Silvia, 2009; Silvia & Brown, 2007). Beyond the general interest in learning more about people who are hostile to domains of the arts, developing our knowledge of hostile aesthetic attitudes could yield practical knowledge for artists and for curators and educators at museums and heritage sites, whose work often involves controversial topics and may touch raw cultural nerves.

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Table 1

Loathing of Legerdemain (LOL) Scale

People have different attitudes about *magic, magicians, and magic tricks*. What do you think?

1. I find magic tricks annoying.
2. I hate magic.
3. People doing magic tricks get on my nerves.
4. I love watching magicians perform tricks. (*reversed*)

Note. People respond on a 5-point scale (*strongly disagree, disagree, neutral, agree, strongly agree*). We recommend randomizing the items. Versions in Word and Qualtrics can be downloaded at Open Science Framework (<https://osf.io/4s9p6/>).

Table 2

Who Hates Magic? A Summary of Effects

| | Sample 1 | Sample 2 | Sample 3 | Sample 4 |
|------------------------------------|-------------------|-------------------|-------------------|-------------------|
| Neuroticism | .10 [-.06, .26] | .10 [-.04, .23] | | |
| Extraversion | .27 [.10, .43] | .07 [-.10, .24] | | |
| Openness to Experience | -.15 [-.30, .01] | -.23 [-.38, -.09] | | |
| Agreeableness | -.26 [-.42, -.09] | -.25 [-.41, -.09] | | |
| Conscientiousness | -.01 [-.16, .14] | .14 [.02, .26] | | |
| UAS: Chills | | | .07 [-.10, .24] | |
| UAS: Absorption | | | -.21 [-.40, -.01] | |
| UAS: Touched | | | .07 [-.19, .32] | |
| Curiosity | | | | -.04 [-.18, .10] |
| Dogmatism | | | | .18 [.06, .30] |
| PNS: Desire for Personal Structure | | | | -.18 [-.39, -.01] |
| PNS: Response to Lack of Structure | | | | .21 [.01, .39] |
| Intolerance of Uncertainty | | | | .13 [-.01, .27] |
| Prestige | | | | -.09 [-.23, .06] |
| Dominance | | | | .15 [.02, .29] |
| Machiavellianism | | -.07 [-.22, .08] | .07 [-.13, .27] | |
| Narcissism | | .05 [-.11, .18] | -.10 [-.25, .05] | |
| Psychopathy | | .22 [.08, .36] | .21 [.03, .38] | |

| | | | | |
|-------------------|---------|--------|-------------------|---------|
| Sadism | | | -.26 [-.43, -.10] | |
| Faith in Humanity | | | -.14 [-.31, .02] | |
| Humanism | | | -.01 [-.21, .22] | |
| Kantian Beliefs | | | .00 [-.18, .18] | |
| Language | English | Polish | English | English |
| <i>n</i> | 305 | 385 | 606 | 303 |

Note. The effects are standardized regression weights with 95% confidence intervals in the *r* metric.