Deeper Than Belief: Intuitive Judgment as a Context-Driven Process

J. Lang¹, C. Körner², and A. Körner¹

¹Department of Educational and Counselling Psychology, McGill University

²Faculty of Economics and Management Science, Leipzig University

Abstract

Based on "laws" of contagion and similarity, it is understood that people tend to believe that meanings associated with one object may be transferred onto another, and the meanings of the first may "contaminate" the second. The perceived contamination may influence the individual's way of interacting with the object. We aimed to produce a rich description of individual differences that predict intuitive judgments in response to scenarios involving activation of contagion heuristics. Adolescents and adults in Germany completed a survey and provided rated responses to hypothetical scenarios. They also gave open-ended remarks on one scenario: whether they would wear a sweater that had belonged to Adolf Hitler if they were cold. Content analysis produced a composite description of reflections with insights into historical consciousness in contemporary Germany. Also examined was the extent to which quantitative responses to other scenarios.

Keywords

Contagion heuristics, historical consciousness, magical thinking, personality, superstition

1 Deeper Than Belief: Intuitive Judgment as a Context-Driven Process

The topic of *contagion heuristics* has garnered widespread interest in social psychology since the 1990's (Nemeroff & Rozin, 1994). Based on "laws" of contagion and similarity, it is understood that people tend to believe that positive or negative meanings associated with one object¹ may be transferred onto another, and the meanings of the first may "contaminate" the second. Whether by way of magical thinking or mere association of ideas (Fedotova & Rozin, 2018), the perceived contamination may influence the individual's way of interacting with the object.

In contagion heuristics studies, participants are often asked to make choices about how to interact with stimuli that evoke emotional responses (especially disgust) without a clear justification. Strong aversive reactions have been reported in scenarios involving stimuli purported to have been physically touched by the "source" of a negative meaning. Indeed, asking participants if they would wear Hitler's sweater tends to produce more negatively charged responses than asking them to carry a modern print of his writings (Fedotova & Rozin, 2018). Nevertheless, in an effect termed *intention-based* (as opposed to *contact-based*) contagion, stimuli created or invented by the source may also be met with aversive reactions (Stavrova et al., 2016). Fedotova and Rozin (2018) offer three explanatory models of non-physical contagion effects:

(1) *Essence*. Principally, some people hold the belief that objects hold a fundamental positive or negative "essence" or spiritual energy that may be transferred through contact. For example, a property that was the setting for a heinous crime is for sale. It may be avoided by buyers for fear that owning and spending time on the property would somehow bring them closer to the basic evil of the deed. The nonmaterial essence of the source is believed to live through the land which is in turn believed to affect the subject or other target objects.

(2) *Association*. While magical thinking is implicated in the essence model, disgust and avoidance may alternatively occur because the stimulus is simply an unpleasant reminder of the source. In counterconditioning studies, responses to stimuli that are reminiscent of tumultuous political histories or those with spiritual import tend to resist extinction (Nemeroff & Rozin, 1994).

¹ The term, "object," is used here in the psychodynamic sense, meaning any other; people, things, or ideas outside of the subject/ego.

(3) *Social Communication*. There are also relational motivations for interacting with an object in one way or another. Interaction with an object charged with negative meanings signals information about the self, such as social status, values, or political orientation, to an audience. The audience may be constituted by real others, imagined others, or in the case of moral contagion, the self. This model draws attention to the role of taboos in intuitive judgments. For example, a person asked to interact with an item associated with a controversial political position may refuse as a means of dissociating from the values signified by the source. One may fear that a real or imagined other-as-audience would regard the subject's interaction with the item as approval or affiliation. In the case of the self-as-audience, the subject spares their moral integrity by distancing themselves from the object. Consider the classic thought experiment in which individuals may be asked whether or not they would wear a sweater that had belonged to Adolf Hitler if they were cold (Nemeroff & Rozin, 1994). It is evident that the three explanatory models of non-physical contagion (Fedotova & Rozin, 2018) may be implicated in the decision to hypothetically refuse Hitler's sweater.

Elements of religion and superstition are oft cited in contagion heuristics research. Supernatural beliefs have been widely studied in relation to other individual differences such as age, length of education, and personality traits. For instance, length of education has been found to correlate negatively with superstition (Lindeman & Aarnio, 2006), and age is a positive correlate (Lange & Thalbourne, 2002). The category of supernatural beliefs has classically encompassed features of religiosity and superstition, and evidently, these domains do not reduce to mere belief. Superstitions have a behavioural or embodied element, and certain behaviours might be misconstrued as indicators of supernatural beliefs but in fact represent symbolic participation in a cultural system of meanings. "Knocking on wood" in the Euro-American context, for instance, has the function of communicating well-wishes between individuals. Making the gesture does not necessarily imply a magical belief that knocking on wood can dispel "bad luck." Similarly, "crossing one's fingers" may either indicate that the individual believes in luck, or that they are merely expressing a wish that an interlocutor experiences a positive outcome ("good luck").

When belief *is* at play, it was equally important to take into account subjects' relationships to those beliefs. Hood and colleagues (2010) demonstrated in three studies that

heightened ectodermal activity was evident in adults' responses to destruction of photographs of sentimental objects, whether or not the content of these photographs captured physical resemblance of the objects they were to symbolically represent. It is argued that "beliefs about magic and the supernatural emerge very early in development, come to be explicitly rejected, but live on in the adult mind at an implicit level" (Hood et al., 2010, p. 398).

Mindful not to conflate superstition with religion, it is important to highlight that embodiment of spiritual ideals is also integral to major world religions. For example, the contemplative discipline of self-emptying (*kenosis*), or in the very least, participation in liturgy, are practical ways to embody the faith (*Imitatio Christi*) in Catholic and Orthodox Christianity (Alfayev, 2011; Butler, 2003). In Mahayana Buddhism, there is great interest in patterned meditations to apprehend the transcendent (Jiang, 2006). Even without adherence to doctrine, an individual raised in a particular cultural-religious context may identify with or at least be literate in their inherited system of norms.

Personality dispositions have been shown to account for variability in magical thinking, superstitious beliefs and behaviours (e.g., refusing to walk under a ladder or carrying a lucky charm). Participants in the UK scoring high on Wiseman and Watt's (2004) *UK Superstition Survey* (sometimes called *Lucky Charms Scale*) reported possessing a strong need for control, greater generalized worry in daily life, and a lower tolerance for ambiguity. These tendencies are conceptually linked to the construct of trait neuroticism in the Five Factor Model of personality (Kemper et al., 2013). In a meta-analysis, public practice of religion as well as fundamentalist beliefs correlated positively with neuroticism, while more generalized spiritual beliefs and private practice were negatively correlated with neuroticism and shared a positive correlation with openness to experiences (Saroglou, 2002). The locus of control—or extent to which an individual believes they have power over their life trajectory (Kemper et al., 2013)—is also conceptually related to religiosity in terms of doctrines of free will *v*. determinism.

Although the concern of this article is non-physical contagion, research in the psychosocial aspects of contagion is timely in the COVID-19 era. In an American study with 360 adults, pre-pandemic disgust proneness predicted self-reported fears and safety behaviours, such as concern about the virus, avoidance of people, places, and objects, and seeking reassurance from loved ones and medical professionals (Cox et al., 2020). Group identity has also been

posited to attenuate health risk perception and increase "risky" behaviours through greater trust and lesser disgust reactions among the in-group (Cruwys et al., 2020), as opposed to the outgroup, *othered* in a polarized fashion.

1.1 Rationale

In light of the robust literature, we are positioned to produce a rich description of individual differences that predict intuitive judgments in response to scenarios that involve activation of contagion heuristics. The present study reports the design and findings of a survey administered to adolescents and adults in Germany inquiring into their relationships to supernatural phenomena as well as demographics and personality characteristics. Participants also provided rated responses to a series of hypothetical scenarios requiring intuitive judgments. For one of these scenarios—whether or not one would wear Hitler's sweater if cold (Nemeroff & Rozin, 1994)—participants wrote open-ended remarks elaborating on their decisions. The present exploratory study accounts for all cited domains of individual differences in predicting rated responses to the scenario in question.

We generated a composite description of similarities and differences among participants' written remarks. The scenario was appraised as politically, morally, spiritually, and personally meaningful to participants and prompted reflection on historical consciousness in contemporary Germany. Our analysis of qualitative data was aimed at accounting for the diversity of participants' reasons for choosing to wear, not wear, or respond with ambivalence; it was a largely open coding process. We also, however, noted the extent to which response content was coherent with the three models of non-physical contagion. This central finding is presented in dialogue with survey response data to enrich our understanding of factors shaping intuitive judgment. We explored the extent to which rated responses to the scenario of interest were predicted by: (a) demographic and personality characteristics, (b) dimensions of one's relationship to the supernatural (i.e., explicit and implicit belief), and (c) responses to other scenarios with content related to religion and personal relationships (rather than German political history).

2 Method

In a single-group cross-sectional design, German-speaking adolescent and adult participants completed an online survey inquiring into demographics, personality characteristics, and supernatural beliefs. Participants also provided responses to thought experiments evocative of religious, superstitious, moral, political and/or historical meanings. Responses were gathered in the form of ratings on Likert-type scales, and for one of the scenarios ("wearing Hitler's sweater"), participants provided open-ended commentary elaborating on their reactions. Questionnaire data were analyzed in relation to the quantitative data regarding the Hitler's sweater scenario, and open-ended responses were examined using qualitative content analysis.

2.1 Procedures

2.1.1 Recruitment

Between November 2014 and January 2015, a weblink was provided to adolescents in Germany requesting their participation in a survey hosted on the SurveyMonkey platform. A snowball sampling procedure was used. The weblink was distributed to students and their teachers at a high school via email, text message and Twitter. Participants shared the link with family, friends, and acquaintances, and thus adults were also represented in the sample. Prior to accessing the survey anonymously, participants consented to take part in confidential, anonymous data collection for a study of faith and personality, which was conducted by one researcher (CK) as a course assignment. Participants also consented to the publication of the study results. The Research Ethics Board of McGill University determined that no ethical review was required for the secondary use of the anonymously collected data.

2.1.2 Measures

The scenario central to this report was completed by participants as part of a larger selfdescriptive survey. To contextualize participants' responses to the scenario, this study included self-report data across five domains pertaining to demographics, personality characteristics and beliefs.

• A *Demographic Questionnaire* with questions regarding participants' age, years of education, gender, and place of residence.

- Eight items were selected from the 2008 and 2012 German General Social Surveys (GESIS) asking participants to rate the extent to which they believed in concepts from a variety of religious traditions (Leibniz Institute for the Social Sciences, 2015, 2013). Responses were provided on the original GESIS three-, five- or six-point agreement scales. Propositions included belief in a personal God, miracles, reincarnation, life after death, ghosts/spirits, angels, and the devil.
- The six-item *Lucky Charms Scale* (Wiseman & Watt, 2004) translated into German by Voracek (2009) was administered to assess supernatural beliefs associated with behaviours that are considered having negative or positive consequences, e.g., breaking a mirror brings bad luck, touching wood brings good luck. In prior administrations, respondents were presented with five (Wiseman & Watt, 2004) or six-point response scales (Voracek, 2009) with endpoints anchored by verbal descriptors to capture agreement or disagreement with each proposition. Our study used five labelled response options: 1 = "Definitely disagree," 2 = "Rather disagree," 3 = "Unsure," 4 = "Rather agree," and 5 = "Definitely agree" (Bridgstock et al., 2011). The scale has shown high internal consistency ($\alpha_{total score} = .84$; Voracek, 2009). The "superstition" total score was used in the present study.
- The three-item *Short Scale for General Self-Efficacy Beliefs* (Allgemeine Selbstwirksamkeit Kurzskala; ASKU) was used to assess self-reliance and confidence in independent problem-solving skills and ability to handle stressful tasks (Beierlein et al., 2012). Participants provided responses on a five-point Likert scale assessing how much particular statements described them. Responses ranged from 1 = "Not at all" to 5 = "Completely" (Beierlein et al., 2012). ASKU has demonstrated convergent validity with other self-efficacy measures and acceptable (omega) reliability (ω = 0.81 to ω = 0.86) as a one-factor measure with samples of adults (Beierlein et al., 2012). It has also been utilized in studies with adolescents (Luong et al., 2019).
- The subscales *Openness to Experience* and *Emotional Stability* of the *Big Five Inventory-10* (BFI-10) were included (Rammstedt & John, 2007). Emotional stability is a strengthbased, reverse-scored interpretation of the traditional *Neuroticism* subscale. BFI-10 scores have shown high test-retest reliability (85%), and its subscales have demonstrated

convergent validity with the equivalent German NEO-PI-R domains (Openness: r = 0.61; Emotional Stability: r = 0.71). A similar correlational pattern has been found with the German BFI-44 (Rammstedt & John, 2007).

2.1.3 Scenarios

Participants were asked to respond to five scenarios:

- Willingness to accept 20 Euros from a stranger in a bar in exchange for a contract signed with place, date, and a drop of blood, acknowledging that one has sold their soul to the devil. Participants were given five response options ranging from 1 = "Yes, for sure" to 5 = "No, certainly not." This iteration of the Faustian bargain was inspired by a popular press article (Dworschak, 2013).
- Likelihood of and discomfort with burning photographs of (a) an insignificant object, (b) one's home, or (c) a loved one. Decision-related response options ranged from 1 = "Yes, for sure" to 5 = "No, certainly not," and discomfort ratings ranged from 1 = "Not unpleasant" to 5 = "Extremely unpleasant"). These scenarios were developed in light of studies of implicit belief (Hood et al., 2010).
- Likelihood of wearing a sweater that had been owned by Adolf Hitler when one is cold. Response options ranged from 1 = "Yes, for sure" to 5 = "No, certainly not." This scenario was inspired by studies by Nemeroff and Rozin (1994). Participants were given the option to elaborate on their responses in an open-ended written format. The following precise instructions were given (translated into English): "Since you are cold, I offer you an impeccable, freshly cleaned sweater that matches your fashionable taste. However, this comes from the estate of Adolf Hitler. Would you wear Adolf Hitler's sweater? If you want, you can comment on your decision here."

2.2 Analysis

Demographic data is reported descriptively. Scale- and item-level survey data were included in multiple correlations (Spearman's ρ) with numeric responses to the third scenario as the dependent variable. Our approach allowed us to evaluate for relationships between personality and belief-related variables and responses to the scenario of interest. Correlations with the other

scenarios permitted exploration of whether reactions to scenarios converged or diverged from one-another. Analyses were conducted in IBM SPSS 28.

Qualitative content analysis (Downe-Wamboldt, 1992; Hsieh & Shannon, 2005) was conducted on participants' open-ended comments. One researcher, AK, assigned each written response one to three codes reflective of response content. Qualitatively similar codes were grouped together under higher-order themes during meetings between AK and JL. A second researcher, JL, then coded all narrative data independently with reference to the initial interpretive scheme. Subsequently, both researchers arrived at a consensus, collaboratively finalizing the scheme of response codes, higher order themes, and their assignments to participants' comments. Coding was largely open—trying to best reflect and summarize the content of the provided participant response—though an interest in theories of social contagion (Fedotova & Rozin, 2018) influenced our study design.

3 Results

3.1 Sample Composition

Two-hundred five (N = 205) people participated in the online survey and 197 participants, who provided numeric responses to the Hitler's sweater item (135 females, 62 males, no other gender identity reported; ages 12-76 years; M = 28 years, SD = 15.76), were included in the current study. A subsample of 62 participants elaborated on their numeric responses to the scenario in open-ended commentary, two of whom were excluded due to unrelated responses, i.e., elaboration on the scenario of selling one's soul to the devil. Narrative data from 60 participants (41 females, 19 males, no other gender reported; ages 12-73 years; M = 28.74 years, SD = 18.50) were included in the content analysis.

3.2 Self-Report Measures

Thirteen percent (13%) of 197 participants (see *Table 1*) reported they would "certainly" wear Hitler's sweater if they were cold and 22% reported that they would "probably" wear it. Twenty percent (20%) were uncertain, 17% would "probably not" wear it, and 28% would "certainly not." More than twice as many participants who accepted to wear Hitler's sweater commented on their decision compared to participants who refused the sweater (47% versus 21%, respectively).

Table 2 shows the relationships (Spearman's ρ) between participant responses to the Hitler sweater scenario and other study variables. Participants who reported greater discomfort with the idea of burning a photo of loved ones and those who indicated belief in angels were more likely to refuse to wear Hitler's sweater ($r_{s(197)} = 0.18$, p = .011 and $r_{s(194)} = 0.20$, p = .005, respectively). Younger participants as well as female (versus male) participants were more likely to refuse Hitler's sweater ($r_{s(197)} = 0.18$, p = .011 and $r_{s(195)} = 0.20$, p = .005, respectively). However, none of these associations were significant after correcting for the number of relationships examined, which would have required p < .003.

3.3 *Remarks on the Sweater Scenario*

Qualitative content analysis of participants' remarks on the scenario resulted in an interpretive scheme of 10 response categories classified under four broader themes (summarized in *Table 3*). Each of the 60 participants' comments were assigned 1 to 3 codes (i.e., response categories). A total of 99 codes were assigned, and percentages reflect frequencies of code occurrences relative to the total. Most coded remarks constituted participants' descriptions of why they would or would not choose to wear the sweater. Other remarks were elaborations on ambivalent reactions to the scenario or reflective commentary.

3.3.1 Rational

Two categories were classified as appeals to reason (the *rational* theme) and occurred exclusively in the context of "yes" responses to the sweater question. Twenty percent (20%) of code assignments captured *neutrality* towards the history of the sweater. These were characterized by such clauses as "Adolf Hitler is long dead," and "one should let the past rest" (both female participants, age range 12-19, responded "yes, for sure" to wearing the sweater). In 7% of cases, participants reported an explicit *rejection of superstition*, pointing to the perception that it would be irrational to be concerned about the origin of the sweater. As one participant expressed: "This object, as an object in itself, has nothing to do with the deeds of its former owner" (Female participant, age range 30-39, responded "Yes, probably").

3.3.2 Pragmatic

The greatest proportion of code assignments were remarks classified under the *pragmatic* theme. This theme, associated with "yes" responses, included statements that the participant would wear the sweater under certain conditions. The *protection from cold* category (21%) captured straightforward premise-conclusion remarks: In the cold, the sweater "fulfills its purpose," and the participant would therefore wear it (Male participant, age group 20-29, responded "Yes, probably"). Remarks coded as *protection from freezing* (7%) and *protection from death* (9%) presupposed additional, stricter temperature conditions. The former accounted for comments that one would wear the sweater "if I'm cold *enough* [emphasis added]" (Female participant, age 30-39, responded "Yes, probably"), while in the latter category, participants explicitly stated that they would wear it only in life-or-death circumstances.

3.3.3 Sociopolitical

Two categories were classified under the *sociopolitical* theme, encompassing participants' comments on affect-, principle- or belief-based motivations to refuse the sweater. Some participants (6%) reported that they would not wear the sweater out of concern that the choice would be met with *social disapproval;* to wear it would signify to others that one is a supporter of Hitler or Nazism. These remarks were qualitatively different from those coded as *political or moral dissociation* (17%). Participants in these cases expressed they would prefer to avoid wearing the sweater because they disapprove of Hitler and his ideology. "I would feel like a traitor if I accepted the sweater," described one female participant (age group 12-19, responded "no, certainly not").

3.3.4 Emotional

Eight percent (8%) of coded remarks described *negative emotional* reactions to the scenario, such as "worry," "abhorrence," "anger," "shame," feeling "dirty" or "uncomfortable." A smaller subgroup of participants commented that the sweater contained or was surrounded by an evil aura or *negative spiritual energy* (3%). In one case, the participant's rationale for distancing from the sweater was unexplained (coded as *unspecified dissociation*).

4 Discussion

This study resulted in a taxonomy of response categories, some of which are comparable to prior argued hermeneutics used to understand avoidance of non-physical contagion effects (Fedotova & Rozin, 2018). Responses that employed notions of negative spiritual energy as a reason for refusing 'Hitler's sweater' are coherent with the essence model. The social communication model of non-physical contagion is applicable in cases coded as concern for social (dis)approval (other-as-audience) and political or moral dissociation (self-as-audience). The dataset could not provide direct evidence that the object's status as a reminder of an unpleasant reality (the association model) was sufficient to justify refusal of the sweater. Responses invoking history were varied, with some participants opting to accept the sweater and stating that one ought to "let the past rest," and others refusing it, whether with elaboration on the object's historical context, or out of unarticulated negative emotion. Accepting to wear Hitler's sweater came with a greater willingness or need to comment on one's decision than refusing the sweater. It is noteworthy that our survey participants were asked to respond to questions such as believing in God, the devil, angels, ghosts, and miracles before being presented with the Hitler sweater scenario. Given this context, some participants might have assumed that refusing to wear 'Hitler's sweater' would be interpreted as irrational and felt the need to emphasize that they are not superstitious and that the origin of the sweater does not matter. Still, despite this (unintended) situational priming, the participant responses illustrate manyfold reflections on the historical context and the conflict that this scenario evokes between rational decision-making and history in contemporary Germany.

Decision-making processes for this scenario in the German context go over and above superstition, age, religious beliefs, and into the domains of personality, politics, and history. *Historical consciousness* is defined as subjective awareness of historical events and perception of their significance. Indeed, historical consciousness occupies a high status in Germany with denial of wartime atrocities resulting in prosecution (German Criminal Code, 2019). Kölbl and Straub (2001) conducted an interview study inquiring into historical consciousness among German adolescents. They proposed that knowledge of historical events and appreciation of their value are linked to both metaphysical beliefs and values shaped by group members. It was found that participants' interpretations of history often followed from the assumption that history constitutes a series of contingencies forming a cohesive timeline. Notably, few participants

supposed any concept of 'progress' or 'decay,' in their discussions of history. The authors hypothesized that the lack of *telos*—such as world peace, scientific discovery of the origins of the universe, salvation, or rapture-corresponds to a shift in the culture towards a postmodern ethic in which no one state can be considered more or less 'civilized' than another. The authors pose this perspective against an alternative construction of historical consciousness in oral storytelling cultures, in which features of the environment, such as rivers, groves, mountains, and ruins, cue memories of pivotal events in the cultural history. Mnemonic relationships to the land are understood to have been dominant in the Bronze Age and persist today primarily in nonindustrial societies (Kölbl & Straub, 2001). Group members with historical consciousness inhabit the settings of stories and legends and are participants in their continuity. The authors noted that this perspective of history remains meaningful in the lived experiences of inhabitants of postindustrial literary cultures, drawing from case exemplars of 21st century German youth. Participants described direct experiences of material culture with historical significance, such as Roman ruins, cathedrals, and monuments from the Second World War, as more evocative than content they had read or heard in classrooms. It is unsurprising that attitudes towards history emerged as themes in our analysis of participants' narratives with content related to the Third Reich. Further study is needed to elucidate the extent to which attitudes towards history interact with superstition and other psychological characteristics in making difficult choices.

Lucky Charms Scale scores were not meaningfully associated with responses to the scenario of interest (e.g., "I believe that a lucky charm or talisman actually brings good luck therefore I carry one"). Participants who refused the sweater tended to report greater intensity of discomfort with the idea of burning a photo of a loved one. Conversely, for those whom the sweater did not bother, neither did the idea of burning a photo of a loved one. The found correlations were based on item-level analysis, which is a limitation of the study design.

This exploratory study produced a composite description of adolescent and adult participants' reflections on a scenario appraised as politically, morally, spiritually, and personally meaningful. Interpretation of survey response data opened the door to dialogue about factors shaping intuitive judgments.

Author Note

No funding was received for this project, and there are no conflicts of interest to disclose.

References

- Alfayev, H. (2011). Theology of the icon in the Orthodox Church: Lecture at St. Vladimir's Seminary. Retrieved October 4, 2022, from: https://mospat.ru/en/news/56024/.
- Beierlein, C., Kovaleva, A., Kemper, C. J., & Rammstedt, B. (2012). Ein Messinstrument zur Erfassung subjektiver Kompetenzerwartungen: Allgemeine Selbstwirksamkeit Kurzskala (ASKU) [An instrument for measuring subjective competence expectations: Short Scale for Measuring General Self-Efficacy Beliefs (ASKU)]. GESIS Working Papers. http://dx.doi.org/10.23668/psycharchives.418.
- Beierlein, C., Kemper, C. J., Kovaleva, A., & Rammstedt, B. (2013). Kurzskala zur Erfassung allgemeiner Selbstwirksamkeitserwartungen (ASKU) [Short Scale for Measuring General Self-Efficacy Beliefs (ASKU)]. *Methoden, daten, analysen, 7*(2), 251-278. https://doi.org/10.12758/mda.2013.014.
- Bridgstock, M., Marais, I., & Sturgess, K. (2011). The structure of superstitious action A further analysis of fresh evidence. *Personality and Individual Differences*, 50(6), 795-798. https://doi.org/10.1016/j.paid.2010.12.033.
- Butler, C. (2003). Western mysticism: Augustine, Gregory, and Bernard on contemplation and contemplative life. New York, NY: Dover Publications. (Original work published 1926).
- Cox, R. C., Jessup, S. C., Luber, M. J., & Olatunji, B. O. (2020). Pre-pandemic disgust proneness predicts increased coronavirus anxiety and safety behaviors: Evidence for a diathesisstress model. *Journal of Anxiety Disorders*, 76, 102315. https://doi.org/10.1016/j.janxdis.2020.102315.
- Cruwys, T., Stevens, M., & Greenaway, K. H. (2020). A social identity perspective on COVID-19: Health risk is affected by shared group membership. *British Journal of Social Psychology*, 59, 584-593. https://doi.org/10.1111/bjso.12391.
- Downe-Wamboldt, B. (1992). Content analysis: Method, applications, and issues. *Health Care for Women International*, *13*(3), 313-321. https://doi.org/10.1080/07399339209516006.
- Dworschak, M. (2013). Der glaube der ungläubigen [The belief of unbelievers]. *Der Spiegel*, 52, 112-120.

- Fedotova, N. O., & Rozin, P. (2018). Contamination, association, or social communication: An examination of alternative accounts for contagion effects. *Judgment and Decision Making*, *13*(2), 150-162.
- German Criminal Code. (2019). Criminal Code in the version published on 13 November 1998 (Federal Law Gazette I, p. 3322), as last amended by Article 2 of the Act of 19 June 2019 (Federal Law Gazette I, p. 844). https://www.gesetze-iminternet.de/englisch_stgb/englisch_stgb.html.
- GESIS Leibniz Institute for the Social Sciences (2015). Allgemeine Bevölkerungsumfrage der Sozialwissenschaften (ALLBUS) 2008 [German General Social Survey (GGSS) 2008]. GESIS Data Archive Cologne. https://doi.org/10.4232/1.12345.
- GESIS Leibniz Institute for the Social Sciences (2013). Allgemeine Bevölkerungsumfrage der Sozialwissenschaften (ALLBUS) 2012 [German General Social Survey (GGSS) 2012]. GESIS Data Archive Cologne. https://doi.org/10.4232/1.11753.
- Hood, B. M., Donnelly, K., Leonards, U., & Bloom, P. (2010). Implicit voodoo: Electrodermal activity reveals a susceptibility to sympathetic magic. *Journal of Cognition and Culture*, 10(3), 391-399. https://doi.org/10.1163/156853710X531258.
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15, 1277-1288. https://doi.org/10.1177/1049732305276687.
- Jiang, T. (2006). Contexts and dialogue: Yogācāra Buddhism and modern psychology on the subliminal mind. Honolulu, HI: University of Hawai'i Press.
- Kemper, C. J., Brähler, E., & Zenger, M. (2013). *Psychologische und sozialwissenschaftliche kurzkalen: Standardisierte erhebungsinstrumente für wissenschaft und praxis*[Psychological and social science short scales: Standardized survey instruments for science and practice]. Berlin, DE: Medizinisch Wissenschaftliche Verlagsgesellschaft.
- Kölbl, C., & Straub, J. (2001). Historical consciousness in youth: Theoretical and exemplary empirical analyses. *Forum: Qualitative Social Research-Sozialforschung*, 2(3), Art. 9.
- Körner, C. (2015). Die Zeiten des Aberglaubens sind vorbei! Oder doch nicht? [Superstition is obsolete or isn't it?]. Research Report for the high school course on religion at the Gymnasium Schkeuditz/Haus Markranstädt.

- Lange, R., & Thalbourne, M. A. (2002). Rasch scaling paranormal belief and experience. Structure and semantics of Thalbourne's Australian Sheep-Goat Scale. *Psychological Reports*, 91, 1065-1073.
- Lindeman, M., & Aarnio, K. (2006). Paranormal beliefs: Their dimensionality and correlates. *European Journal of Personality, 20,* 585-602.
- Luong, M. T., Gouda, S., Bauer, J., & Schmidt, S. (2019). Exploring mindfulness benefits for students and teachers in three German high schools. *Mindfulness*, 10, 2682-2702. https://doi.org/10.1007/s12671-019-01231-6.
- Nemeroff, C., Rozin, P. (1994). The contagion concept in adult thinking in the United States: Transmission of germs and of interpersonal influence. *Ethos*, 22, 158–186. https://doi.org/10.1525/eth.1994.22.2.02a00020.
- Rammstedt, B., & John, O. P. (2007). Measuring personality in one minute or less: A 10-item short version of the Big Five Inventory in English and German. *Journal of Research in Personality*, 41(1), 203-212. https://doi.org/10.1016/j.jrp.2006.02.001.
- Saroglou, V. (2002). Religion and the five factors of personality: A meta-analytic review. *Personality and Individual Differences*, 32(1), 15-35. https://doi.org/10.1016/S0191-8869(00)00233-6.
- Stavrova, O., Newman, G. E., Kulemann, A., & Fetchenhauer, D. (2016). Contamination without contact: An examination of intention-based contagion. *Judgment and Decision Making*, *11*(6), 554-571.
- Voracek, M. (2009). Who wants to believe? associations between digit ratio (2D:4D) and paranormal and superstitious beliefs. *Personality and Individual Differences*, 47(2), 105-109. https://doi.org/10.1016/j.paid.2009.01.051.
- Wiseman, R., & Watt, C. (2004). Measuring superstitious belief: Why lucky charms matter. Personality and Individual Differences, 37(8), 1533-1541. https://doi.org/10.1016/j.paid.2004.02.009.

Appendix

Table 1

Participants' numeric responses to the sweater scenario (relative frequencies)

"Since you are cold, I offer you an impeccable, freshly cleaned sweater that matches your fashionable taste. However, this comes from the estate of Adolf Hitler. Would you wear Adolf Hitler's sweater? If you want, you can comment on your decision here."	Provided numeric responses (<i>N</i> = 197)	Provided open-ended remarks (<i>N</i> = 60)	Did not provide open- ended remarks (<i>N</i> = 143)
Yes, for sure	13%	15%	11%
Yes, probably	22%	37%	14%
I am not sure	20%	18%	20%
No, probably not	17%	13%	18%
No, certainly not	28%	17%	31%

Table 2

Correlations (Spearman's p) of the "Hitler sweater scenario" (sweater refusal) with other study variables

Scale / item			
Believe in God	.05		
Believe in a life after death	.15*		
Believe in reincarnation/rebirth			
Believe that there are miracles	.09		
Believe in ghosts	.04		
Believe in angels			
Believe in the devil	.09		
A man unknown to you offers you 20 Euros in cash. If you take the 20 Euros, you must sell your soul to the devil and sign a contract on paper. Would you sign with place, date, and a drop of blood? [Refusal] ¹			
In front of you is the photo of an insignificant object. Now I ask you to burn this photo. Would you burn this photo? [Refusal] ¹	.07		
How uncomfortable would it be for you to burn the photo of this object? $[Discomfort]^2$.11		
In front of you is the photo of your house or apartment. Now I ask you to burn this photo. Would you burn this photo? [Refusal] ¹			
How uncomfortable would it be for you to burn the photo of your house/apartment? [Discomfort] ²	.07		
In front of you is the photo of a person you love very much. Now I ask you to burn this photo. Would you burn this photo? [Refusal] ¹	.11		
How uncomfortable would it be for you to burn the photo of a loved one of yours? [Discomfort] ²	.18**		
Superstition (Lucky Charms Scale, Total score)	.03		
Self-Efficacy (ASKU, Total score)			
Openness (BFI-10 subscale score)			
Emotional Stability (BFI-10 subscale score)			
Younger age			
Female gender (rather than identifying as male)			

Note. $186 \le n \le 197$ depending on missing responses; * $p \le .05$; ** $p \le .01$; no significant correlations after Bonferroni correction for number of relationships examined (p < .003)

¹ Response options from "1 = Yes, for sure" to "5 = No, certainly not," higher scores indicating stronger refusal ² Response options from "1 = Not unpleasant" to "5 = Extremely unpleasant," higher scores indicating more discomfort

Table 3

Relative frequency of themes and categories including illustrative verbatim examples translated into English

Theme (%)	Category (%)	Description	Example
Rational (27%)	Neutrality (20%)	Origin of sweater does not matter.	"I do not care from whom. Main point is that I have a sweater."
	Reject superstition (7%)	It would be irrational to consider origin of sweater.	"This object, as an object in itself, has nothing to do with the deeds of its former owner."
Pragmatic (37%)	Protection from cold (21%)	Would wear sweater if cold.	"When I'm cold and the sweater warms me, of course!"
	Protection from freezing (7%)	Would wear sweater if exceptionally cold/freezing.	"I'm not sure how I would react, I think it depends on how cold it is, how long [it has been cold] and how long until I will get to a warm place."
	Protection from death (9%)	Would wear sweater only in life-or- death situation.	"If I would almost freeze to death, or my limbs would be already hurt or turn blue then probably yes. Otherwise more likely not."
Sociopolitical (23%)	Political or moral dissociation (17%)	Rejected sweater because appalled by Nazi ideology and crimes.	"I am politically left-leaning and thus the acceptance of this pullover would speak against all my principles."
	Social (dis)approval (6%)	Concerned that wearing sweater may be perceived as approval of Hitler/Nazism.	"[] given the German history it is regarded as insulting and generally unwished-for and it can lead to a discussion."
Emotional (12%)	Negative emotion (8%)	Negative feelings towards idea of wearing sweater.	"I would feel dirty."
	Negative spiritual energy (3%)	Belief that sweater contains or is surrounded by evil energy.	"I do not think you can wash out the energy patterns from a piece of clothing that someone has worn before."
	Unspecified dissociation (1%)	Unexplained distancing from sweater.	"[] any sweater would do it for me. And I do not keep it."