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UNIVERSITY OF CALIFORNIA,
MERCED

Information Avoidance: An Interchangeable Mechanism of Self-Protection

THESIS

Submitted in partial satisfaction of the requirements
for the degree of

MASTER OF ARTS

in Psychological Sciences

by

William Bradford Meese

Thesis Committee
Assistant Professor Jennifer Lee Howell, Chair
Professor Deborah Wiebe
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2022

DEDICATION

To

My Advisor, Jennifer Howell

My parents and friends

My fiancé Evan Foster

& The memory of those we have lost

In recognition of their love

“Only you and I can help the sun rise tomorrow,
otherwise it will drown itself out in sorrow”

- Joan Baez

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CONFERENCES (Underlined Names Indicate Undergraduate Coauthor)**Talks**

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ABSTRACT OF THE THESIS

Information Avoidance: An Interchangeable Mechanism of Self-Protection

By

William Bradford Meese

Master of Science in Psychological Sciences

University of California, Merced 2022

Assistant Professor Jennifer Lee Howell, Chair

Across 4 studies, we examined whether information avoidance—the deliberate decision to remain ignorant of available information—serves a self-protective function that is interchangeable with other mechanisms of self-protection. We tested this idea by examining the relationship between information avoidance and defensive derogation of feedback. In Studies 1a and 1b, we examine whether people with a prior disposition to avoid would be more likely to derogate health information they received. We then replicated these findings in a large, confirmatory sample (Study 2). Study 3 experimentally ruled out two potential alternative explanations for the relationship established in Studies 1 and 2 by manipulating whether participants have an opportunity to avoid feedback (eliminating self-selection bias), and by presenting everyone with identical feedback (eliminating variance in the feedback received). Finally, Study 4 experimentally tested whether situations that should influence defensiveness—induction of self-(un)certainty—would increase (certainty) or decrease (uncertainty) both proactive avoidance and reactive defensiveness (Study 4). Taken together, results suggest that information avoidance is likely part of a broader self-protective system, and that people will substitute other mechanisms of self-protection for avoidance.

Keywords: defensiveness, self-evaluation, risk perception, self-protection, information avoidance

Information Avoidance: An Interchangeable Mechanism of Self-Protection

In Arthur Miller's play "An Enemy of the People" (Miller & Ibsen, 1951), a local scientist suspects the water in his town is contaminated. He attempts to warn his fellow townspeople of the risk but doing so threatens the development of a new spa that is essential to saving the town's languishing economy. They vociferously defend themselves, and their spa, by attacking the scientist—they actively avoid learning the results of his water-quality test and disparage both his character and his warning message. In fact, they drive him—their only scientist—out of town.

While it might be easy to dismiss a choice of deliberate ignorance as a strategy of fictional characters, a vast body of research suggests that many people will intentionally avoid learning information in important life domains ranging from their romantic relationships to their health—a behavior called *information avoidance* (see Howell et al., 2020; Sweeny et al., 2010 for reviews). In the present work, we examine the proposition that information avoidance is part of a broader psychological system of self-protection or, alternatively, a solitary decision that is unrelated to self-protection strivings.

Self-Evaluation Maintenance

People have a psychological system in place that helps to create and maintain positive views of themselves, their groups, and their environment (Alicke & Sedikides, 2009; Sedikides & Gregg, 2008), a sort of psychological homeostasis (Alicke et al., 2020). This system includes a collection of available mechanisms that counteract, upon encountering threatening self-evaluative information, any destabilizing effect on how people think and feel about themselves—particularly negative effects (Sedikides, 2021; Steele, 1988; Tesser, 2001).

The empirical literature is replete with examples of strategies that people can use, consciously or otherwise, to protect how they think and feel about themselves. These strategies include, for example, downward social comparison (Klein et al., 2001; Wills, 1981), information denial (Baumeister et al., 1998; Thompson et al., 2011; Wiebe & Korbel, 2003), and self-affirmation (Critcher et al., 2010; Steele, 1988). The collection of strategies was formally brought together when Tesser and colleagues (1996) coined the term "self-zoo" to describe the different interchangeable mechanisms that serve to protect important self-views from threat. Known generally as the principle of substitution, this idea—central to theories that predict maintenance of self-views—suggests that satisfying the need to protect oneself, like affirming global self-worth, decreases the propensity to engage in a subsequent strategy, like denial (Steele & Liu, 1983). For instance, when told that smoking causes lung cancer, a recalcitrant smoker who wishes to keep smoking and see themselves as healthy might think about others who smoke more frequently—using downward social comparison—or attempt to discredit the claim by disparaging the lack of experimental evidence. The goal is always the same: protecting the smoker's self-views and behavior, maintaining psychological equanimity.

Information Avoidance

People avoid information in various domains including their finances (Blajer-Gołąbiewska et al., 2018; Karlsson et al., 2009), goal progress (Webb et al., 2013), health (Dwyer et al., 2015; Emanuel et al., 2015; Howell et al., 2020), attractiveness and peer evaluations (Howell et al., 2019), their romantic relationships (Hussain et al., 2021), environmental perils (Losee et al., 2020), consumer purchases (Deng et al., 2022), and

racial biases (Howell et al., 2015). Important to the present endeavor, people differ in the extent to which they both desire and decide to avoid information, a domain-specific tendency that is driven, theoretically, by the need to self-protect (Howell et al., 2020; Howell & Shepperd, 2016).

The idea that information avoidance serves a self-protective function is not new (Howell et al., 2019; McQueen et al., 2013, 2014; Sweeny et al., 2010). Research demonstrates that people who self-report avoiding information about cancer also report using defensive strategies like counter-arguing and denial (McQueen et al., 2014). Subsequent experimental work has examined this relationship, showing, for example, that people decide to avoid feedback about their attractiveness when it comes from sources that are more threatening to their self-view (Howell et al., 2019). Additionally, people avoid information when they do not feel they have the personal or interpersonal resources to manage the psychological threat it produces (Howell et al., 2014; Taber et al., 2015) or if they anticipate feeling regret (Sweeny & Miller, 2012).

Perhaps the strongest evidence that information avoidance is part of a broader system of self-protection comes from evidence that self-affirmation reduces avoidance (Howell & Shepperd, 2017). Self-affirmation theory proposed that affirming a person's important strengths and values can protect their self-view and self-integrity against psychological threat (Harris & Epton, 2009; Steele, 1988). Because of the consistency of this effect, it is widely used to experimentally decrease defensive responses to feedback (Reed & Aspinwall, 1998; D. K. Sherman & Cohen, 2006; Steele & Liu, 1983), and specifically to increase acceptance of threatening health information (Sweeny & Moyer, 2020). For example, people who smoke are less defensive, as measured by reduced feedback derogation, when told about their risk for lung cancer when an alternative, non-threatened identity is made salient (Blondé et al., 2022). Self-affirmation processes also reduce information avoidance: People are more willing to learn genetic risk information insofar as they also report a tendency to think about their strengths in psychologically threatening situations (Ferrer et al., 2014) and are less likely avoid personal health risk feedback when they self-affirm, compared to those who do not self-affirm, prior to making the decision to learn or avoid their risk (Howell & Shepperd, 2012, 2017).

Information Avoidance: Proactive Self-Protection

Self-protection theories typically consider how people respond to known threats. The idea that people can proactively defend against anticipated threats, initially established by early research on self-handicapping (Arndt et al., 2002; Elliot & Church, 2003), has been theoretically suggested in the context of information avoidance (Howell et al., 2013), selective exposure (Fischer et al., 2005; Gibson, 2007), and bracing for bad news (Rankin & Sweeny, 2021; K. M. Taylor & Shepperd, 1998), but remains theoretically and empirically underdeveloped.

If information avoidance is part of a broader system of self-protection, then it should serve as a proactive mechanism of self-protection that is replaced by other mechanisms (Tesser et al., 2000). In this proactive-reactive framework, a reactive mechanism of self-protection serves as a replacement strategy for the need that would have otherwise been satisfied by proactively self-protecting. For example, a person who is dispositionally prone to avoid threatening self-relevant information—suggesting they are generally defensive toward that information—might proactively neutralize a self-

threat by deciding to avoid or reactively neutralize a self-threat with a different mechanism of self-protection, like derogation or denial.

To establish information avoidance as a mechanism of self-protection, then, presents a unique opportunity to extend self-protection theory. Theoretically elaborating strategies of proactive self-protection is important in part because it is difficult to disengage following exposure to threatening information (Koster et al., 2004), and the decision to avoid information is a behavior that can be experimentally tested using ecologically valid methods. More specifically, though, self-protection theory, as it stands, might predict that an employee would proactively protect by self-handicapping during a performance evaluation (Gibson, 2007; Tice, 1991), but is limited in the extent to which it considers proactive self-protection that does not involve sabotaging an evaluation. The decision to avoid information, alternatively, represents an opportunity to obviate knowing the contents of the threat altogether, to *proactively* and deliberately self-protect when confronted with the possibility of becoming aware of potentially threatening information.

Important to the present endeavor, overcoming the tendency to avoid information could, at first blush, indicate openness to feedback. But this might not always be true. Instead, the decision to learn information, when a greater desire to avoid it would predict otherwise, might indicate the presence of other defensive strategies, like feedback derogation (Briñol et al., 2006). Nevertheless, as far as we are aware, no study to date has directly tested the proposition that people will replace the decision to avoid with other forms of defensive self-protection. Additionally, no work has examined whether individual differences in the propensity to avoid serve as an indicator of this broader defensive orientation toward information.

Health Information: A Context for Exploring Self-Protection

Health information, when it conflicts the need to view oneself as generally healthy (S. E. Taylor & Brown, 1988), is psychologically threatening: It reminds people of their own mortality and threatens their worldview (Goldenberg & Arndt, 2008), threatens their need to belong (Baumeister & Leary, 1995; Leary et al., 1994), and threatens important self-views (Klein et al., 2001). Health risk information increases anxiety, fear, and other negative emotions (Maloney et al., 2011; Witte & Allen, 2000); the possibility of serious or chronic illness, in turn, increases feelings of self-uncertainty as people imagine a transition to becoming a patient (Nanton et al., 2016): Threatening health information does not make people feel good about themselves.

But health information can be critical to preserving and sustaining life and people should be motivated to seek and accept accurate health information without delay. Instead, those with an increased health risk often do not accept their risk status (Lipkus et al., 2018). That is, when health information is threatening, people consistently respond defensively by denying or rejecting the message (Gibbons et al., 2004; Hall et al., 2017; Kunda, 1987; D. A. K. Sherman et al., 2000; Wiebe & Korbel, 2003). Because of this apparent contradiction, testing whether people replace health information avoidance with other defensive responses, thereby implicating health information avoidance as a mechanism of self-protection, is both theoretically interesting and practically important.

The Present Research

We sought to examine whether information avoidance might be part of a broader psychological system of self-protection in two ways. First, across 4 studies, 5 samples,

and 13 different types of health information, we examined whether the predisposition to avoid information is related to reactive mechanisms of self-protection. Relying on the theoretical principle of substitutability, (Steele & Liu, 1983; Tesser et al., 1996), we broadly expected that people who were predisposed toward health information avoidance would respond defensively by derogating personalized health risk feedback if they do not initially decide to avoid. That is, if people who are dispositionally prone to avoid self-relevant information do not proactively self-protect—by deciding to avoid—they will reactively self-protect—by defensively derogating the feedback they receive.

Study 1 provided an initial exploratory demonstration of the relationship between the predisposition to avoid health information and feedback derogation among participants who did not actively avoid their risk of heart disease (Study 1a) and melanoma skin cancer (Study 1b). We hypothesized that an increased predisposition to avoid health information would relate to increased feedback derogation—suggesting that people who wish to avoid, but refrain from this defensive tendency, will replace it with a different form of self-protection. Importantly, if information avoidance does not serve a self-protective function, then we would expect there to be no relationship between the predisposition to avoid health information and feedback derogation for those who do not decide to avoid.

Study 2 and 3 extended Study 1 by systematically ruling out alternative explanations that, if supported by the evidence, would contradict our theoretical proposition. Study 2 directly replicated Study 1, testing the same hypothesis by using a high-powered, pre-registered, confirmatory sample. To control for idiosyncratic differences associated with each risk test, and the health threat it assesses, Study 2 randomly assigned participants to one of nine possible health risk tests. Study 3 introduced two preregistered experimental controls to eliminate possible alternative explanations for the correlational results observed in Studies 1 and 2 by presenting everyone with the same risk feedback—thus controlling for the effect of feedback valance—and by introducing a comparison condition of participants without an opportunity to avoid, to examine the possible contribution of selective attrition. We again predicted that feedback derogation would be positively related to the predisposition to avoid health information, but, importantly, that the magnitude and direction of this effect would *not* depend on having an opportunity to avoid. This comparison is important because of the possibility that Studies 1 and 2, by design, used a restricted range of defensiveness because they only examine the relationship between the predisposition to avoid and feedback derogation for those who do not actively avoid. No prior research has examined what happens when those who otherwise would have avoided are not given an opportunity to do so.

Then, after testing whether the predisposition to avoid information predicted reactive self-protection to risk information that participants received, Study 4 experimentally tested whether situations that should increase/decrease self-protection strivings also increase/decrease both the decision to avoid information and feedback derogation. If information avoidance does not serve a self-protective function, then we would expect that the rate at which people decide to avoid will not change in situations that affect the need to self-protect. Specifically, Study 4 introduced two comparison conditions where participants were made to feel either certain or uncertain about

themselves (Hogg et al., 2007; Niedbala & Hohman, 2019). Consistent with research showing that people made to feel uncertain about themselves become less defensive towards self-relevant information (DeMarree et al., 2007; Swann & Schroeder, 1995) and more likely to seek diagnostic information (Leonardelli & Lakin, 2010), we hypothesized that, compared to a control group, people made to feel uncertain about themselves would be less likely to decide to avoid feedback and less likely to derogate the calorie information they received and that people made to feel certain about themselves would be more likely to avoid and more likely to derogate the calorie information they received.

Study 1

The primary aim of Study 1 was to examine whether people who would ordinarily avoid health information, but still learn it, respond more defensively to health risk feedback. To do so, we examined the correlation between individual differences in the predisposition to avoid health information and people's reaction to health information they chose to learn. We analyzed data collected from two existing studies on health information avoidance. In both samples, participants completed a disease risk test. We hypothesized that participants who scored high in general and specific (e.g., heart disease) information avoidance, as a predisposition, would be more likely to decide to avoid their risk feedback (Hypothesis 1) and more likely to derogate their risk feedback if they did not decide to avoid it (Hypothesis 2). Finally, to rule out one possible alternative explanation, we explored the extent to which the findings could be explained by variance associated with the relative severity of the risk feedback participants received. People respond more defensively when they receive bad news about their health (de Hoog et al., 2007; D. A. K. Sherman et al., 2000); if information avoidance does not serve a self-protective function, then the variance in feedback derogation should be explained by the severity of risk feedback, because it has been established as a consistent predictor of defensive responding, and the predisposition to avoid health information should no longer relate to feedback derogation, because it would not provide any incremental gain in variance explained. Consistent with this logic, we predicted that the relationship between the propensity to avoid information and feedback derogation would remain after controlling for the content of risk feedback presented to participants (Hypothesis 3).

Study 1a

Study 1a aimed to provide an initial test by examining derogation of personalized risk feedback for heart disease. The data were from the control condition of a published study which tested the effect of asking people to contemplate the pros and cons of receiving their risk feedback on avoidance of risk feedback (Howell et al., 2016). None of the primary data reported here have been reported elsewhere.

Participants and Procedure

The original study compensated participants \$1.81 for a survey on an online participant recruitment platform (Mturk.com) and randomly assigned them to a contemplation condition or a no-contemplation (passive control) condition. The data reported here belong to participants in the control-condition who completed the measurements for our variables of interest (e.g., information avoidance and feedback derogation measurements; $N = 75$; $M_{age} = 30.45$ years, $SD_{age} = 12.39$ years; 57.33% identified assigned male at birth, 42.67% identified assigned female at birth, we did not request gender identity). We did not determine the sample size and do not report observed power because of the problems associated with post-hoc power analysis (Lakens, 2021).

Participants completed an online risk test for heart disease. Then, in counterbalanced order, decided to receive or avoid their risk feedback and responded to measures of general health and heart disease-specific information avoidance. Only participants who selected that they wanted to receive their risk ($N = 49$) received their risk feedback and responded to items measuring feedback derogation. Those who avoided

($N = 26$) did not receive feedback and thus did not complete the measure of feedback derogation.

Measures

Heart Disease Risk Test

All participants completed a risk test for heart disease adapted from an online risk test made available by the Siteman Cancer Center, Washington University, St. Louis (Siteman Cancer Institute, 2021, <https://siteman.wustl.edu/prevention/ydr/>). Participants responded to questions about their health like "How often do you eat unsaturated fats, like vegetable oil" and "Do you walk (or do other moderate activity) for at least 30 minutes on most days, or at least 3 hours per week?"

Health Information Avoidance

Predisposition Toward Information Avoidance. We measured the predisposition to avoid health information in general and to avoid heart disease specific risk information using a scale designed to measure the chronic, trait-like desire to avoid self-relevant information (Howell & Shepperd, 2016). This scale is a valid and reliable measurement of a person's desire to avoid information in the domain to which the scale is adapted (Howell & Shepperd, 2016). Development of this scale focused on predicting those who are dispositionally resistant and defensive towards threatening information about themselves. Consistent with our characterization of this scale, it is positively related to other defensive processes, including preference for defensive coping strategies (i.e., blunting, minimization), and traits (e.g., neuroticism), and negatively related to processes that oppose defensiveness, including preference for coping strategies like monitoring and threat-related self-resources like self-esteem.

In this study, participants responded to items like, "I would rather not know information about my health [heart disease risk]" and reverse coded items like "Even if it will upset me, I want to know information about my health [heart disease risk]" (1 = *strongly disagree*, 7 = *strongly agree*). Higher scores indicate a greater predisposition to avoid health information (general health information avoidance: $M = 2.91$, $SD = 1.55$, $\alpha = 0.92$, $\lambda_6 = 0.97$; heart-disease risk information avoidance: $M = 2.70$, $SD = 1.52$, $\alpha = 0.91$, $\lambda_6 = 0.97$). In the original study, participants responded to 10 items: We restrict our analysis to the eight items that match the validated version of the scale.

Information Avoidance Decision. Participants responded to the item "Based on your responses to the risk test we can give you your comparative risk for heart disease at the end of this survey (Your risk will indicate whether you are at higher, lower, or similar risk as someone your same age and sex at birth)" with the response options "Yes, please give me my risk for heart disease" (the default option) and "No, I do not want to learn my risk for heart disease." In total 34.67% of participants chose to avoid learning their risk for heart disease.

Feedback Valence

We computed a comparative risk score in the survey by using the odds ratio data provided by the Siteman Cancer Institute (Siteman Cancer Institute, 2021, <https://siteman.wustl.edu/prevention/ydr/>). Each score was algorithmically evaluated against cutoff scores to determine appropriate feedback (computed for all participants but only presented it to those who did not decide to avoid it). We used a numerical representation of feedback valence (1 = *significantly lower risk*, 9 = *significantly higher*

risk; $M = 2.23$, $SD = 2.37$) rather than the raw risk score in our analysis because it represents the feedback participants received. Additional details of this process for all risk tests are included in the online supplemental material

(https://osf.io/t7cuz/?view_only=b565dbb5ee134d64ab8e876b4ee7e5d2).

Feedback Derogation

After receiving risk feedback, participants indicated their agreement with five statements adapted from previously validated measures of defensive responding to health communication (McQueen et al., 2013, 2014; Ruiters et al., 2003) like “my risk feedback is distorted” and reverse coded items like “my risk feedback is accurate” (reverse coded; 1 = *strongly disagree*, 7 = *strongly agree*). Higher scores indicate greater feedback derogation ($M = 3.08$, $SD = 1.13$; $\alpha = 0.79$, $\lambda_6 = 0.89$).

Data Analysis

All data analyses were conducted in R Studio (version 2022.02.3+492). Scale means were computed using the Psych Package (Revelle, 2022, version 2.2.3). We conducted binomial logistic regression in base R (R Core Team, 2022, version 4.2.0) to examine the relationship, in separate logistic regression models, between the predisposition to avoid both general health information as well as heart-disease-risk information specifically and the decision to avoid heart-disease-risk feedback. Next, we examined the relationship between the predisposition to avoid health information and feedback derogation using partial correlation to control for the risk feedback valence. We computed two partial correlations, one for the predisposition to avoid health information in general, and one for heart-disease-risk information, using the ppcor package (version 1.1) in R (Kim, 2015). All data and analysis scripts are publicly available at (https://osf.io/t7cuz/?view_only=b565dbb5ee134d64ab8e876b4ee7e5d2). Table 1 contains descriptive and reliability statistics for all measures; Table 2 and Table 3 provide correlations for all variables in Study 1a and Study 1b.

Results

Information Avoidance Decision

We conducted two separate logistic regression models predicting the decision to avoid, one for general health information avoidance and one for heart-disease-risk specific health information avoidance. Consistent with prior work establishing the scale (Howell & Shepperd, 2016), both a greater tendency to avoid general health information, $OR = 1.82$, $CI_{95\%} = [1.29, 2.71]$, $b = 0.60$, $CI_{95\%} = [0.25, 1.00]$, $z = 3.20$, $p = .001$, as well as a greater tendency to avoid heart-disease-risk specific information, $OR = 2.62$, $CI_{95\%} = [1.72, 4.37]$, $b = 0.96$, $CI_{95\%} = [0.54, 1.47]$, $z = 4.09$, $p < .001$, related to an increased likelihood of avoiding risk feedback.

Feedback Derogation

As expected, the predisposition to avoid health information in general related to increased derogation of risk feedback, $r = .37$, $CI_{95\%} = [0.10, 0.59]$, $p = .01$. However, the predisposition to avoid information specific to heart disease was not related to feedback derogation, $r = .20$, $CI_{95\%} = [-0.08, 0.46]$, $p = .16$. Neither effect changed substantively after controlling for participants' risk feedback: general health information avoidance propensity: $r_{partial} = .34$, $CI_{95\%} = [0.06, 0.57]$, $p = .02$; heart-disease-specific information avoidance: $r_{partial} = .22$, $CI_{95\%} = [-0.07, 0.47]$, $p = .14$.

Study 1a Discussion

The results from Study 1a provide initial evidence to suggest that information avoidance may be part of a broader system of self-protection: Among those who did not avoid their risk feedback, general health information avoidance tendencies, but not avoidance tendency specifically related to heart disease risk information, was related to feedback derogation. We are cautious not to overinterpret these results for two reasons. First, participants in our sample were from the control condition of an intervention study, limiting the size of the sample. More importantly, 82.5% of the participants in our sample were younger than 41 years old—the age at which the risk test becomes less valid—limiting the relevance of risk feedback for heart disease. Indeed, the most common risk feedback participants received indicated a *significantly lower risk* for heart disease compared people the same age and sex at birth. Despite these limitations, these data provide preliminary evidence of a positive, linear relationship between the general tendency to avoid health information avoidance as a proactive mechanism of self-protection and derogation of health feedback, a reactive mechanism of self-protection.

Study 1b

Study 1b was identical to Study 1a with two exceptions: First, the sample was from a larger, non-experimental study. Second, we used a risk test for melanoma skin cancer. Data for Study 1b were from an unrelated data collection effort (Howell et al., 2016), but none of the primary data reported here have been reported elsewhere. All hypotheses remained the same.

Participants and Procedure

The original research recruited respondents, via an online participant recruitment platform (Mturk.com), who received \$0.51 for completing the study. The data presented here are from all participants who completed measurements for variables of interest ($N = 150$, $M_{age} = 33.08$, $SD_{age} = 12.61$; 70 women and 80 men). The design and procedure were identical to those in Study 1a, except participants completed a risk test for melanoma skin cancer, rather than heart disease, and they were not participating in an experiment. All measures, too, were identical, except they were adapted to melanoma skin cancer risk rather than heart disease risk. Because feedback derogation was only measured among participants who did not decide to avoid their risk feedback, the statistical model predicting feedback derogation only includes data from these respondents ($N = 121$).

Results

Information Avoidance Decision

Like Study 1a, both the general tendency to avoid health information, $OR = 2.66$, $CI_{95\%} = [1.74, 4.47]$, $b = 0.98$, $CI_{95\%} = [0.56, 1.50]$, $z = 4.13$, $p < .001$, and the predisposition to avoid risk information specific to melanoma skin cancer, $OR = 2.65$, $CI_{95\%} = [1.75, 4.36]$, $b = 0.97$, $CI_{95\%} = [0.56, 1.47]$, $z = 4.23$, $p < .001$, predicted the decision to avoid melanoma-skin-cancer-risk feedback. In total, 19.33% of participants decided to avoid their risk for melanoma skin cancer.

Feedback Derogation

Both the predisposition to avoid health information in general, $r = .20$, $CI_{95\%} = [0.02, 0.37]$, $p = .03$, and information specific to melanoma skin cancer, $r = .24$, $CI_{95\%} = [0.06, 0.40]$, $p = .01$, related to feedback derogation (again, for those who received their risk feedback). Importantly, both effects persisted after controlling for feedback valence:

health information in general, $r_{\text{partial}} = .20$, $CI_{95\%} = [0.02, 0.36]$, $p = .03$; melanoma skin cancer information, $r_{\text{partial}} = .25$, $CI_{95\%} = [0.07, 0.41]$, $p < .01$.

Study 1b Discussion

These data replicated Study 1a and further suggest that people might turn to feedback derogation as a replacement defensive strategy when they might typically decide to avoid feedback. Moreover, the finding that wanting to avoid information specific to melanoma skin cancer in Study 1b predicted feedback derogation suggests the presence of defensives processes because, unlike Study 1a, the risk feedback is self-relevant and potentially threatening. Still, both studies were collected for another purpose and had somewhat-small sample sizes, so we aimed to replicate the results in preregistered a high-powered confirmatory study.

Study 2

To replicate the results from Study 1a and 1b, Study 2 used a preregistered, high-powered, confirmatory, and census matched (age, sex at birth, and race) sample. All procedures and hypotheses remained the same, except we randomly assigned participants to one of nine possible risk tests to ensure that the effects observed could not be attributed to idiosyncratic differences related to a specific disease threat or the assessment thereof. All procedures were approved by the institutions ethical review board.

Participants and Procedure

Participants ($N = 1,144$ adults), recruited using an online participant recruitment platform (Prolific.co), received \$1.22 for completing the study ($M_{age} = 44.04$ years, $SD_{age} = 16.52$ years; 587 indicated that they were assigned female at birth, 556 indicated that they were assigned male assigned at birth, 1 person chose not to answer) as part of a larger study examining information avoidance. None of the data from this study have been published, and all materials are available in the online supplement (https://osf.io/t7cuz/?view_only=b565dbb5ee134d64ab8e876b4ee7e5d2). Participants completed one of nine possible health-risk tests: (1, $N = 150$) heart-disease (2, $N = 155$) stroke (3, $N = 138$) diabetes, (4, $N = 130$) prediabetes, (5, $N = 142$) lung cancer, (6, $N = 144$) colon cancer, (7, $N = 144$) melanoma skin cancer, (8, $N = 73$) breast cancer, and (9, $N = 68$) prostate cancer. We randomized assignment to risk tests but applied the following five restrictions: (1) participants who indicated they were assigned male at birth were not randomized to the breast cancer risk test, (2) participants who indicated they were assigned female at birth or who declined to indicate their sex assigned at birth were not randomized to the prostate cancer risk test, (3) participants who indicated a prior history of heart-attack were not randomized to the heart-disease risk test, (4) participants who indicated a prior diagnosis of diabetes were not randomized to either the diabetes or prediabetes risk tests, and (5) participants who indicated a prior diagnoses of cancer were not randomized to any of the cancer-related risk tests. The remainder of the study was identical to Studies 1a and 1b except that we did not measure predisposition towards disease-specific information avoidance to reduce participant burden and reserve time for other tasks. Table 4 provides correlations among the measures in Study 2.

Results

Information Avoidance Decision

Consistent with the findings from Studies 1a and 1b, those who reported a greater desire to avoid health information generally were more likely to decide to avoid their risk feedback, $OR = 2.30$, $CI_{95\%} = [1.91, 2.79]$, $b = 0.83$, $CI_{95\%} = [0.65, 1.02]$, $z = 8.62$, $p < .001$. There were no differences in the rate at which participants decided to avoid across all risk tests. Specifically, a chi-squared test revealed that the rate of avoidance did not significantly differ from the average (15%) across all risk tests, $\chi^2(9, 1,144) = 8.47$, $p = .49$. However, inspection of differences between specific risk tests revealed participants assigned to the lung cancer risk test (21.13%) avoided at a higher rate than those assigned to the breast cancer risk test (8.22%), $\chi^2(1, 215) = 4.87$, $p = .02$.

Feedback Derogation

To model the relationship between the predisposition to avoid health information and feedback derogation, we used data from participants who received feedback and responded to it (like Study 1). We initially examined differences in feedback derogation

across assigned risk tests using one-way ANOVA, which revealed that feedback derogation statistically differed across groups, $F(8, 959) = 10.85, p < .001, \text{partial}\eta^2 = .08, \text{CI}_{95\%} = [0.05, 0.10]$, see Table 5 for additional details; derogation was lowest in the heart-disease condition ($M = 2.15, SD = 0.72$) and highest in the lung cancer condition ($M = 3.01, SD = 0.95$), please see Table 6 for additional details.

Given the presence of differences in feedback derogation across risk tests, taken together with the unequal probability of selection as described in our sampling plan, we decided that multi-level modelling was an appropriately conservative test of our hypotheses. We conducted restricted maximum likelihood multi-level modelling with the lme4 package (Bates et al., 2015, version 1.1-29) in RStudio (version 2022.02.3+492) to examine the extent to which derogation is influenced by the predisposition to avoid, as a fixed effect at level 1. Also, like Study 1, we analyzed a second model that included feedback valence as an additional fixed effect at level 1. Both the predisposition to avoid and feedback valence were group-mean centered (Peugh, 2010), and p values were calculated using Satterthwaite degrees of freedom. The intraclass coefficient across assigned risk tests was .09. Additional details, including model equations, are provided in online supplementary material

(https://osf.io/t7cuz/?view_only=b565dbb5ee134d64ab8e876b4ee7e5d2). Our primary interest was in the fixed effect of the propensity to avoid health information in general on feedback derogation for those who received risk feedback, controlling for the fixed effect of feedback valence and the random, group-level effects of slope and intercept.

Overall, there was a statistically significant between-persons fixed effect of the increased predisposition to avoid on feedback derogation, $b = 0.19, \text{CI}_{95\%} = [0.12, 0.26], t(958.28) = 5.46, p < .001$, indicating that the effects reported in Study 1 remain after controlling for variance attributed to differences between groups. This effect remained after adding feedback valence, $b = 0.19, \text{CI}_{95\%} = [0.13, 0.26], t(957.26) = 5.64, p < .001$. These findings suggests that a greater predisposition to avoid related to greater feedback derogation, please see Table 7 for a complete summary of both models.

Study 2 Discussion

Taken together, the results from Studies 1a, 1b, and 2 provide strong, correlational evidence for a relationship between a predisposition to avoid health information and feedback derogation to received health information, that this relationship, which cannot only be alternatively explained by differences in the severity of risk feedback, is not unique to a specific disease threat or method of assessing one's risk for that disease.

Of course, given the correlational nature of the results, alternative explanations exist. First, it is possible that there is some unmeasurable self-selection effect on feedback derogation. Because we only observed the relationship between the predisposition to avoid and feedback derogation among those who chose to receive (and not avoid) their feedback, it not possible to ascertain the influence of a self-selection effect (i.e., those who don't want feedback but say 'yes' are particularly negative toward that feedback). Second, because we computed scientifically accurate risk scores for everyone, the feedback participants received was inherently variable. While the observed relationships persisted even when controlling for feedback valence, there remains an as-yet-unknown constellation of complex cognitions surrounding feedback, the variance of

which might partially explain the effect established by Studies 1 and 2. We designed Study 3 to address both concerns with experimental control.

Study 3

Study 3 used a preregistered¹ experimental design to address the aforementioned limitations of Studies 1 and 2. First, it controlled for the effect of variance due to feedback valence by presenting everyone with the same feedback. Second, it introduced a group of participants who were not given the option to avoid their risk feedback (*no choice condition*) to compare to participants who, like Study 1 and 2, were given the option to avoid their risk feedback (*choice condition*). We again predicted that participants would be more likely to derogate their feedback to the extent that they were higher in the predisposition to avoid health information (Hypotheses 1). Importantly, we did not suspect that this relationship would be moderated by whether participants had a choice to receive their feedback or not (Hypothesis 2). Indeed, the effect of choice condition should only moderate the relationship between the predisposition to avoid and feedback derogation if the findings from Study 1 and 2 exist only among those who choose to learn information (and not prior disposition to avoid as an individual difference variable).

As an additional indicator of whether information avoidance might serve an interchangeable self-protective function, Study 3 examined differences in feedback derogation between the *choice* and *no choice* conditions. If information avoidance serves a self-protective function, then feedback derogation should increase in the no-choice condition, because participants in the choice condition who would otherwise derogate their feedback had an opportunity to proactively self-protect by deciding to avoid (Hypothesis 3). Put another way, because the choice condition only measured derogation for those who did not decide to avoid, those who satisfied the need to self-protect (by avoiding) will not remain in the sample. All procedures were approved by the institution's ethical review board.

Participants and Procedure

We recruited 249 participants from an online participant recruitment platform (Prolific.co). Sample size was determined and preregistered in advance primarily due to resource constraints; a compromise power analysis conducted in Gpower indicates power is approximately 0.92 to detect an effect size of 0.2 for our two-group design with one covariate and interactions. All participants received \$1.21 for completing the study. We removed data from 11 participants: seven did not give us permission to use their data and four took the survey twice (identical prolific ID). The final data contained observations from 238 participants ($M_{age} = 28.80$ years, $SD_{age} = 10.24$ years; 47.48% identified as female, 50.42% as male, and 2.10% as non-binary, agender, or gender non-conforming; 66.80% identified as White or Caucasian, 10.10% as Hispanic/Latino, 9.24% as Black or African-American, 5.04% as Asian, 2.52% as Middle Eastern, 0.42% as American Indian, Alaska Native, Native Hawaiian or Pacific Islander, 5.04% indicated something other than options listed, and 0.84% participants chose not to answer).

¹ https://osf.io/t7cuz/?view_only=b565dbb5ee134d64ab8e876b4ee7e5d2

After providing consent, participants responded to a fictitious risk test that we designed to ostensibly calculate a person's risk of transmitting COVID-19 to other people. Data collection occurred between June 26, 2021, and June 29, 2021. We randomly assigned participants to either a *choice* condition ($N = 118$) or a *no-choice* condition ($N = 120$). The *choice* condition replicates the procedure in Study 1: Participants decided to receive or avoid their risk feedback. In the *no-choice* condition, all participants received feedback. Everyone completed measures of health information avoidance (general health and COVID-19 specific) in counterbalanced order. Everyone except those in the *choice* condition who actively avoided ($N = 7$) received the same false feedback that their risk for transmitting COVID-19 to other people was moderately high in general, and slighter higher than other people their same age². Everyone who received risk feedback then responded to items measuring feedback derogation. Please see Table 1 for descriptive and reliability statistics for all measures, and Table 8 for correlations between variables measured in Study 3. For a list of other measures included during data collection, please see the online supplementary material at (https://osf.io/t7cuz/?view_only=b565dbb5ee134d64ab8e876b4ee7e5d2).

Fictitious COVID-19 Risk Test

Participants responded to 17 items that ostensibly measured their risk of transmitting COVID-19 to other people. We designed the risk test using an iterative process to improve its perceived credibility, pilot testing it on a range of health professionals, psychologists, undergraduate research assistants, and laypersons, receiving and incorporating feedback to improve the design and credibility of the risk test. We retained a final set of 17 items because they were sufficiently credible yet ambiguous that a reasonably informed person would believe that their risk of spreading COVID-19 was higher than others based on their responses. For example, participants responded to items like “On average, how often do you find yourself closer than 6 feet from another person who is not a member of your household. You should include all times this happens, even when everyone involved is wearing a face covering” and “Please indicate the number of days you go out to the store (e.g., grocery store, pharmacy, or retail shop).”

For additional context, at the time of data collection, the 7-day average of new reported cases in the United States was approximately 12,030 cases (Times, 2020) and 338.29 million COVID-19 vaccine doses administered (Our World in Data, n.d.). Additionally, popular news articles had been raising awareness about concerns over the delta variant of COVID-19 (Rabin et al., 2021) and risky behavior as a barrier to mass immunity (Smith et al., 2021), particularly because less than 1/3 of adults between the age of 18 and 39 had received a dose of the vaccine (Baack, 2021, p. 19). We did not analyze the results of responses to the risk test but provide the full test and item-level descriptive statistics in the supplementary material (https://osf.io/t7cuz/?view_only=b565dbb5ee134d64ab8e876b4ee7e5d2).

² Participants also responded to an attention check, though excluding people who failed the attention check did not change the results of our analysis. Please see online supplement for model comparison (https://osf.io/t7cuz/?view_only=b565dbb5ee134d64ab8e876b4ee7e5d2).

Information Avoidance

Predisposition Toward Information Avoidance.

We measured predisposition to avoid health information in general ($M = 1.85$, $SD = 0.68$, $\alpha = 0.85$, $\lambda_6 = 0.89$) and specific to COVID-19 transmission risk ($M = 1.83$, $SD = 0.68$, $\alpha = 0.87$, $\lambda_6 = 0.92$) with the same scale used in Studies 1 and 2 (Howell & Shepperd, 2016). Specifically, participants responded to items like “I would avoid learning my risk for spreading COVID-19” and reverse coded items like, “Even if it will upset me, I want to know my risk for spreading COVID-19.” Higher scores indicate greater predisposition to avoid information (1 = *strongly disagree*, 5 = *strongly agree*).

Information Avoidance Decision.

Participants assigned to the choice condition responded to the item “Based on your responses to the risk test we can give you your comparative risk for transmitting COVID-19 to other people at the end of this survey (Your risk will indicate whether you are at higher, lower, or similar risk as someone your same age)” with the response options “Yes, please give me my risk for spreading COVID-19 to other people” (again, the default) and “No, I do not want to learn my risk for spreading COVID-19 to other people.” In total 5.93% ($N = 7$) of participants in the choice condition ($N = 111$) chose to avoid learning their risk for spreading COVID-19 to other people. At the end of the study, after responding to derogation items, participants in the no-choice condition responded to a hypothetical information avoidance item: “If I had been given the option to receive feedback about my risk for spreading COVID-19 or not, I think my gut reaction would have been to,” and given the response options, “Choose NOT to receive my risk feedback,” or “Choose to receive my risk feedback.” Of the participants in the no-choice condition, 10.00% ($N = 12$) indicated that they would have decided to avoid, while 90.00% ($N = 108$) indicated that they would not have decided to avoid.

Feedback Derogation

Participants responded to 12 items to measure feedback derogation. Items in this measure are adapted from previously validated measures of defensive responses to health communications (Hall et al., 2017, 2017; McQueen et al., 2013). Items included those used in Study 1 and 2, and additional items like “My feedback is stupid,” “...is pointless,” and “...is misleading.” Higher scores indicate greater feedback derogation ($M = 2.62$, $SD = 0.78$, $\alpha = 0.92$, $\lambda_6 = 0.94$; 1 = *strongly disagree*, 5 = *strongly agree*).

Results

Consistent with the results reported in Studies 1 and 2, both the prior disposition to avoid health information in general, $b = 0.27$, $CI_{95\%} = [0.08, 0.46]$, $t(227) = 2.79$, $p < .01$ and specific to COVID-19 transmission risk, $b = 0.28$, $CI_{95\%} = [0.08, 0.47]$, $t(227) = 2.29$, $p < .01$, were positively related to feedback derogation. Neither the effect of general health information avoidance, $b = -0.02$, $CI_{95\%} = [-0.31, 0.28]$, $t(227) = -0.11$, $p = .91$, nor the effect of COVID -19 transmission risk specific information avoidance, $b = -0.02$, $CI_{95\%} = [-0.32, 0.27]$, $t(227) = -0.16$, $p = .87$ was moderated by condition. Full regression results appear in Table 9 and Table 10.

Consistent with the notion that information avoidance is a proactive defensive behavior, that is part of the same self-protection system that includes feedback derogation, participants in the no-choice condition ($M = 2.76$, $SD = .84$) derogated their

feedback more than participants in the choice condition ($M = 2.46$, $SD = .69$), $M_{\text{difference}} = .30$, $CI_{95\%} = [0.10, 0.50]$, $t(229) = 2.96$, $p = .003$, $d = .39$, $CI_{95\%} = [0.13, 0.65]$.

Study 3 Discussion

Taken together, the results from Studies 1-3 suggest that information avoidance is likely part of the broader self-protection system that includes derogating self-threatening information: An increased predisposition to avoid is consistently related to increased feedback derogation. Importantly, this effect remains after controlling, statistically and experimentally, for possible alternative explanations that, if true, would contradict our theoretical proposition. Furthermore, Study 3 suggests the results observed in Studies 1 and 2 were unlikely to have been due to the nuance of providing people choice and actual feedback.

There remains the possibility that, because only seven participants decided to avoid their risk feedback in the choice condition, Study 3 did not provide an adequate comparison of self-selection effects. We planned this study assuming that the threat of learning your risk of spreading COVID-19 to other people would be psychological threatening, and that if the relationship we found in Studies 1 and 2 was a design artifact, and indeed there is no relationship or a negative relationship between the predisposition to avoid health information and feedback derogation when participants do not have an opportunity to avoid, then this positive slope would either disappear or reverse direction when participants are not provided with a choice. This point is important because no prior research has examined, experimentally, what happens when people who would have decided to avoid are not given an opportunity to avoid. That so few participants decided to avoid their risk feedback is an undeniable limitation in this sample, but, we argue, the results from this study continue to provide strong support for our hypotheses, primarily because our theoretical test did not rely on demonstrably high levels of avoidance in the choice condition, simply that the slope would remain the same when there was no opportunity to avoid. If the relationship between the predisposition to avoid health information and feedback derogation, reported in Studies 1 and 2, relied on providing participants with an opportunity to avoid, this relationship would have been moderated by condition.

We did not preregister or plan a comparison of the decision to avoid in the choice condition or the hypothetical-would-you-avoid item in the no-choice condition; and hypothetical avoidance remained quite low ($N = 12$). Still, post-hoc examination revealed that participants in the no-choice condition who indicated at the end of the study that they would have decided to avoid their risk feedback if they were given a choice had meaningfully higher levels of feedback derogation than other participants.

Another possibility is that feedback derogation was higher in the no-choice condition because participants need for autonomy was thwarted in this condition. That is, the choice condition created an autonomy supportive context, thus decreasing the need to self-protect, and the no-choice created an autonomy thwarting context, thus increasing the need to self-protect. This alternative explanation does not contradict our theoretical proposition. Indeed, if information avoidance does serve a self-protective function, then we should see that a context which decreases self-protection strivings, like an autonomy supportive context, should decrease self-protection strivings, an idea we turn to in study 4.

Together, these studies provide evidence that people who might have otherwise derogated their feedback never received their feedback and that this effect likely cannot be explained by self-selection bias, by variation in the content, domain, or relative severity of feedback provided, or by idiosyncratic differences in the specific method of assessment. However, these studies are further limited by their reliance on objective risk assessment: What happens when participants are not asked to complete a risk assessment? If information avoidance is truly part of the broader self-protection system (one that includes information derogation), then situations that reduce the need to self-protect and promote acceptance of objective, diagnostic information should reduce both avoidance and feedback derogation, while situations that increase the need to self-protect should have the opposite effect.

Study 4

Hitherto, our argument has relied on the relationship between the predisposition to avoid information and derogation of feedback, but not situations associated with changes in the need to self-protect. Moreover, the feedback presented to participants, determined using a risk test that asked participants to report past behavior, potentially confounds the effect of interest with characteristics the risk test (e.g., self-perception processes, dishonest responding) and the experiential context of engaging in a self-assessment task.

So, to extend our work on establishing information avoidance as a mechanism of self-protection in the self-system, Study 4 experimentally manipulated the extent to which participants felt certain or uncertain about themselves. Feeling certain can make people more defensive towards self-relevant information—especially if it might disrupt that certainty—whereas feeling uncertain can make people less defensive and more open to information—particularly if it can help resolve uncertainty (Albarracín & Mitchell, 2004; DeMarree et al., 2007; Ng et al., 2022). To further demonstrate the relationship between information avoidance and psychological self-protection processes, particularly in the absence of self-assessment through a health risk test, we tested the idea that activating uncertainty would decrease both information avoidance (Hypothesis 1a) and feedback derogation (Hypothesis 2a) and that activating certainty would increase information avoidance (Hypothesis 1b) and feedback derogation (Hypothesis 2b).

Participants and Procedure

Participants included 243 undergraduate students ($M_{\text{age}} = 20.02$ years, $SD_{\text{age}} = 2.51$ years; 69.55% Female, 29.63% Male, 0.82% Other; 58.44% Hispanic/Latino(a/x), 19.75% Asian, 7.82% Black, 6.17% White, 7.82% Multiracial/Other) who participated in the study for partial fulfillment of research participation requirements. We recruited as many participants as we could in one semester for the study, which determined our sample size.

After obtaining informed consent, we randomly assigned participants to one of three conditions: *uncertainty*, *certainty*, or *active control*. This manipulation has been consistently used, successfully, to generate feelings of both self-certainty and self-uncertainty (Hogg et al., 2007; Morrison & Johnson, 2011), particularly in the context of testing motivated worldview defense (Niedbala & Hohman, 2019; van den Bos, 2009). Participants assigned to the *uncertainty* condition wrote about “three to five things [they] are most uncertain about” and to “describe in detail the one situation that has made [them] the most uncertain [they] have been in [their] life.” We strengthened the manipulation by asking participants to “describe the specific emotions that the thought of [their] being uncertain generally arouses in [them].” Participants in the *certainty* condition wrote the same three essays but about situations and emotions that made them feel the most certain. The only difference between the two conditions was the use of the word *certain* or *uncertain*. Participants in the *control* condition wrote about “two modes of transportation that [they] have used in [their] life” and described “in detail how [they] could use one of these modes of transportation to get from one place to another (e.g., to get from school to the grocery store).”

After the experimental manipulation, participants sat at a table setting (contained within a private experimental cubicle) designed to look like a restaurant—including a placemat, a red and white gingham patterned tablecloth, a rolled set of utensils, a small

decorative flower, and salt and pepper shakers. Participants then selected a meal from one of three available (fake) menus. Menus were, by design, as similar as possible for the present purpose (e.g., they contained approximately the same number of possible calories). All participants received a \$20 experimental budget, which could buy them at least an appetizer, a main dish, and a drink on all the menus. A research assistant, acting in the role of a professional server, recorded participants' orders on a handheld order book, recreating the experience of ordering food in a restaurant. Participants then returned to the survey where they reported their feelings of uncertainty and received an opportunity to learn the number of calories in the meal they selected. Those who did not avoid their calorie feedback then learned the number of calories in their meal and indicated their agreement with the accuracy of this number. All study procedures were approved by the university's ethical review board.

Manipulation Check

We measured the relative success of each experimental manipulation (uncertainty and certainty) by adding one item to the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988). Specifically, participants responded to the statement: "Indicate to what extent you feel this way right now, in the present moment - uncertain" (1 = *very slightly or not at all*, 5 = *extremely*; $M = 2.66$, $SD = 1.30$).

Information Avoidance Decision

Like Studies 1, 2, and 3, participants responded to the statement, "Do you want to know how many calories were actually in the meal you chose?" by choosing between "Yes, please tell me how many calories were actually in the meal I chose" (69.14%) or "No, I do not" (30.86%). Unlike Studies 1, 2, and 3, there was no default response option.

Feedback Derogation

We measured feedback derogation using a single item. Participants indicated their agreement with the statement "My calorie feedback is accurate." Unlike previous studies, lower scores indicate greater feedback derogation (1 = *strongly disagree*, 7 = *strongly agree*; $M = 4.10$, $SD = 2.00$).

Data Analysis

To evaluate the fidelity of our experimental manipulation, we examined differences in self-reported uncertainty between each experimental condition and the control condition. To examine the effect of condition on the odds of deciding to avoid, we used two chi-square tests in RStudio using the base R stats package (version 2022.02.3+492), comparing the percentage of avoidance in each experimental condition to the control condition. We then examined differences in feedback derogation between each experimental condition and the control condition (separately) using two independent sample t-tests. Differences in feedback derogation were, like previous studies, examined for those who received feedback.

Results

Manipulation Check

Participants assigned to the uncertainty condition reported feeling significantly more uncertain ($M = 2.92$, $SD = 1.28$) than did participants assigned to the control condition ($M = 2.36$, $SD = 1.26$), $M_{\text{difference}} = -0.56$, $CI_{95\%} = [-0.96, -0.16]$, $t(155) = -2.75$, $p < .01$, $d = .44$, $CI_{95\%} = [0.12, 0.76]$. Unexpectedly, participants assigned to the certainty condition did not report feeling significantly less uncertain ($M = 2.54$, $SD = 1.24$) than

participants assigned to the control condition ($M = 2.36$, $SD = 1.26$), $M_{\text{difference}} = -0.19$, $CI_{95\%} = [-0.58, 0.21]$, $t(156) = -0.93$, $p = .36$, $d = .15$, $CI_{95\%} = [-0.16, 0.46]$.

Avoidance of Calorie Information

Participants in the *uncertainty* condition avoided the calorie information of their menu selection significantly less often (22.62%) than did those in the *control* condition (37.84%), $OR = 0.48$, $CI_{95\%} = [0.24, 0.96]$, $\chi^2(1, 158) = 4.36$, $p = .04$, $\phi = -.17$, $CI_{95\%} = [-0.31, 0.01]$. Consistent with evidence that the certainty manipulation was not successful, there was no difference in the rate at which participants avoided the calorie information of their menu selection between the *certainty* condition (32.94%) and control condition (37.84%), $OR = 0.81$, $CI_{95\%} = [0.42, 1.55]$, $\chi^2(1, 159) = 0.42$, $p = .52$, $\phi = -0.05$, $CI_{95\%} = [-0.31, 0.01]$.

Feedback Derogation

Participants made to feel uncertain about themselves rated their feedback as more accurate ($M = 4.42$, $SD = 2.05$) than did participants in the control condition ($M = 3.59$, $SD = 2.04$), $M_{\text{difference}} = -0.83$, $CI_{95\%} = [-1.61, -0.50]$, $t(109) = -2.11$, $p = .04$, $d = -.41$, $CI_{95\%} = [-0.79, -0.02]$. And, consistent with evidence that the certainty manipulation was not successful, feedback derogation did not differ significantly between the certainty ($M = 4.14$, $SD = 1.87$) and control conditions ($M = 3.59$, $SD = 2.04$), $M_{\text{difference}} = -0.55$, $CI_{95\%} = [-1.32, 0.21]$, $t(101) = -1.44$, $p = .15$, $d = .29$, $CI_{95\%} = [-0.10, 0.68]$.

Study 4 Discussion

Study 4 suggests that participants who experienced uncertainty avoided calorie information less and derogated their feedback less than those in the control condition. We did not observe the opposite effect as hypothesized in the certainty condition, which is not surprising insofar as the certainty manipulation did not work.

General Discussion

The present research tested the idea that information avoidance is part of a larger system of psychological self-protection. Study 1, which included two exploratory samples, and Study 2, a high-powered confirmatory sample, examined participants' responses to health-risk-test feedback across several health conditions (e.g., heart disease, skin cancer, diabetes) and provided correlational evidence for a relationship between the predisposition to avoid information and increased derogation of health risk feedback. Those who were predisposed to avoid information, but did not decide to avoid their risk feedback, were more likely to reactively self-protect by derogating the feedback they received. Study 3, aimed to rule out two alternative explanations for Studies 1 and 2: (1) self-selection bias and (2) the variance in the severity of feedback. This study replicated and extended the effects of Study 1 using a risk test that ostensibly measured a person's risk of spreading COVID-19 to other people. As expected, participants were more likely to derogate their health risk feedback to the extent that they reported a greater predisposition to avoid health information, and, importantly, the magnitude of this effect did not depend on whether participants had a choice to avoid information.

Study 4 experimentally examined the effect of manipulations of certainty and uncertainty on avoidance and feedback derogation: Feeling uncertain should reduce the need to self-protect and increase motivation to reduce uncertainty by seeking and accepting objective, self-relevant information; feeling certain should increase the need to self-protect and decrease the motivation to seek and accept objective, self-relevant information (Brouwers & Sorrentino, 1993; Hogg et al., 2007; Leonardelli & Lakin, 2010). Study 4's uncertainty manipulation provided strong support for our hypothesis by extending the results from Studies 1, 2, and 3 into a situation that should diminish the need to self-protect. That is, in an experimental procedure where people ordered food from a menu and then received the opportunity to learn the calories contained in the meal they ordered, those made to feel uncertain, compared to those in the control condition, were less likely to decide to avoid and less likely to derogate feedback. This evidence suggests that both behaviors are likely driven by a related system of psychological self-protection. Contrary to expectations, the certainty manipulation did not decrease uncertainty (i.e., increase certainty) and did not affect the relevant outcomes. Two important reasons exist that might explain why we did not observe the expected effects in the certainty condition. First, the absence of a significant difference could be attributed to the measurement of *uncertainty*, rather than *certainty*, as a manipulation check. Still, the fact that we did not observe differences between the certainty and control conditions on any of our outcomes suggests that the observation was more than simply failure of the manipulation check, particularly because the absence of a true effect would contradict established theory and recent experimental evidence.

The certainty manipulation may have elicited feelings of uncertainty for some and certainty for others. Specifically, the difficulty of Study 4's experimental task might have inadvertently increased uncertainty for some by asking participants to write about three to five things in their life that they feel certain about, and to describe a situation in their life when they have felt the most certain. Research has demonstrated that when people are asked to consider personal examples that demonstrate a trait (e.g., their egalitarian behaviors), they become less convinced of their success in that domain to the extent that

recalling such examples is difficult (Guerrettaz & Arkin, 2015; Howell et al., 2013; Schwarz et al., 1991). Previously published studies using this procedure asked participants to list three examples of events or memories when they felt (un)certain, however, in the present study, participants were asked to list between three and five examples. This seemingly minor alteration of the procedure could lead to greater uncertainty: Some participants may have felt pressure to produce five, rather than three, examples; in turn, this difficulty may have led some participants to feel uncertain about themselves if they were unable to generate five examples. Indeed, increasing the number of examples requested is the procedure used to increase uncertainty (Guerrettaz & Arkin, 2015). Future research will need to test whether prompting certainty will increase the propensity to self-protect by avoiding information, and further demonstrating that this behavior substitutes for other mechanisms of self-protection.

Taken together across 4 studies, these results suggest that information avoidance is part of a broader system of self-protection that is associated with other self-protective strategies. It also suggests that merely getting people to choose to receive information—thus overriding a dispositional tendency to avoid it—is not always enough to make them receptive to that information unless one targets the broader system of self-protection.

Theoretical and Practical Implications

The present research extends theoretical perspectives on information behavior and psychological self-protection in at least three ways. First, the present work elaborates theoretical perspectives that explain how people use mechanisms of self-protection to construct and maintain important self-views. Specifically, it builds on previous work that introduced information avoidance as a potential proactive mechanism by which people engage in self-protection (Howell et al., 2013, 2019). In so doing, it demonstrates a synergistic relationship between proactive avoidance and reactive defensiveness (Study 1, 2, and 3) and, furthermore, that situations, like those that make people feel uncertain, which should disarm defensive strategies, disarm both active avoidance and feedback derogation (Study 4). Prior tests of the substitution principle demonstrate the substitutability of strategies that people use after they have encountered a threat, like self-affirmation or social comparisons, essentially comparing the effect of two reactive mechanisms of self-protection and demonstrating that an increase in one strategy is associated with a decrease in another strategy (Crawford, 2007; Tesser, 2000). In contrast, information avoidance serves a self-protective function before the anticipated threat occurs, opening the possibility of future investigations into other forms of proactive-reactive self-protection-mechanism interchangeability that specifically examine mediating mechanisms like restoration of self-worth or self-complexity.

Second, by considering the proposition that the predisposition to avoid represents a defensive orientation towards self-relevant information, the present work establishes the prior disposition to avoid as an important individual difference variable that explains defensive responding to information more broadly. People who are predisposed to avoid information about their health appear to replace the decision to avoid with feedback derogation as an alternative strategy. When initially establishing the information avoidance scale, the authors proposed that a primary purpose of the scale would be to “identify people who are less responsive to situational factors shown to diminish information avoidance” (Howell & Shepperd, 2016, p. 1). The present work demonstrates

that the predisposition to avoid information, as measured, not only identifies those who are resistant to factors that reduce the decision to avoid, but also identifies those who are motivationally resistant to information altogether.

The relationship between the predisposition to avoid and derogation of feedback is perhaps surprising, given that wanting to know information and thinking that information is inaccurate, misleading, or pointless semantically represent contrasting cognitions. However, when one considers the idea that these two strategies are part of a connected self-system, their yoked relationship makes sense. Indeed, we demonstrated that this relationship remains after controlling for potential confounds like the relative severity of risk feedback and type of health information. This suggests that for some it is not necessarily the content of the information itself, but likely a broader defensive orientation towards self-relevant health information that drives both avoidance and reactive defensiveness like feedback derogation.

Finally, the present research is important to interventions designed to increase acceptance of health risk information. Theories that predict defensive processing of health information propose that specific defense mechanisms are used at different stages of information processing (McQueen et al., 2013). People can avoid information in the early stages or deploy a variety of defenses once they are exposed to the information. Importantly, the present work demonstrates that the need to self-protect is not diminished simply by advancing beyond the stage of avoiding exposure. Specifically, the present work demonstrates that the resistance formed by the need to self-protect may persist as people move from one stage to the next. Taken together with previous work demonstrating that people avoid information that threatens important self-views (Howell et al., 2013, 2019), the present work emphasizes the importance of targeting and reducing tension in the self-system to prevent all defensive obstacles, rather than simply trying to promote learning information.

Limitations and Future Directions

The present work is limited in several ways that can be addressed in future research, including a restricted application to avoidance of health information in the context of real diseases. Despite the gains in external and ecological validity, the variability associated with using risk tests for real disease threats introduced variance that we cannot control for in the same way as an alternative experimental control, like a fictitious disease. For example, in the present work, Study 3 used a fictitious risk test for a real health threat (spreading COVID-19 to others). Presumably, our participants arrived at the study aware of other sources of information in addition to their own a priori beliefs about their risk for spreading COVID-19 to others and factors that contribute to this risk. Also, several of the risk tests we used determine a person's relative lifetime risk for diseases where more objective, personalized, and diagnostic tests are available. Indeed, one criticism of the prediabetes risk test designed and made available by the Centers for Disease Control (<https://www.cdc.gov/prediabetes/takethetest/>), used in Study 2, is that the test is designed to overstate an individual's risk, particularly in older adults, as an appeal to prediabetes prevention (Lam & Lee, 2021). Alternative experimental paradigms may complement the present work by using fictitious tests and feedback (e.g., attractiveness) where no truly objective alternative exists. Future research will need to

expand beyond real disease threats to extend the present work beyond the health domain and rule out potential confounds associated with risk tests for real disease threats.

Our ability to draw broad theoretical conclusions is also limited by a reliance on feedback derogation to measure reactive defensiveness. Specifically, we do not know the extent to which participants who did not decide to avoid had proactively discredited the feedback before making their decision to receive or avoid their risk feedback. Some participants may have filled out the risk test inaccurately or may have believed previously that their risk cannot be computed accurately without speaking with a doctor. Study 4, which does not rely on a risk assessment, circumvented this limitation by directly computing calorie feedback from participants menu selection, and continued to demonstrate the expected effect. But in Studies 1, 2, and 3, the items used to assess risk are relatively transparent: Participants assigned to complete the risk test for melanoma skin cancer, for example, indicated “Yes,” or “No,” when asked if they had ever used a tanning bed or wear sunscreen. A participant might proactively self-protect by dishonestly reporting their behavior (akin to self-handicapping; Tice, 1991), in which case the feedback they received would be inaccurate. Still, derogation and denial of health information are well-established defensive responses (Hall et al., 2017; Jessop et al., 2009; McQueen et al., 2013; Ruitter et al., 2003; Wiebe & Korbel, 2003) and, as a dependent variable, allowed a strong test of our hypothesis: If a person responded dishonestly to protect their self-view and receive desirable feedback, then there is no reason, other than not trusting the scientific enterprise, that they would see their feedback as misleading or manipulative.

And, more importantly, this alternative explanation does not contradict the idea that information avoidance serves a self-protective function, but, instead, the possible presence of an alternative proactive mechanism of self-protection. To firmly establish information avoidance as a mechanism of self-protection, future work will need to conceptually replicate a relationship between information avoidance and other proactive and reactive defensive processes, like downward social comparisons (Wills, 1981), self-enhancing dimensional comparisons (Edmonds & Rose, 2022), or selective memory (Croyle et al., 2006) and relate them back to other trait-like measures of defensiveness, like defensive confidence (Albarracín & Mitchell, 2004).

The present research did not examine potential mediating mechanisms, like self-worth or self-complexity, that are theorized to attenuate the need to self-protect (Critcher & Dunning, 2015). Specifically, the substitution principle predicts that, in response to a self-threat, a given mechanism of self-protection (e.g., self-affirmation) may be used to maintain self-evaluative positivity, and that the effect of this mechanism on global self-worth is equivalent to the effect of another mechanism (e.g., downward social comparison) on global self-worth—each mechanism returns the threatened self-concept to a prior state (Tesser et al., 1996). For example, a person who decides to avoid has theoretically maintained self-integrity, or psychological homeostasis (Sedikides, 2021), that could have suffered if they were unable to avoid; the effect of the decision to avoid on self-integrity (or global self-worth) would be equivalent to the effect of derogation or downward social comparisons—in each situation the need to self-protect has been satisfied and self-worth is restored to the same pre-existing level.

In the present work, we did not measure self-esteem or self-worth because of the possibility that self-worth might be restored in the process of measuring it (Critcher & Dunning, 2015; Steele et al., 1993). Instead, the present work relies on previous work demonstrating the role of derogation in neutralizing self-threats (Niedbala & Hohman, 2019; see Sedikides, 2012 for a review; Shepperd, 1993; Thompson et al., 2011) and self-(un)certainty in arming or disarming self-protection strivings (Brouwers & Sorrentino, 1993; DeMarree et al., 2007; Hohman & Hogg, 2015; Leonardelli & Lakin, 2010; Morrison & Johnson, 2011; Ng et al., 2022; Oettingen et al., 2022; van den Bos, 2009). Indeed, if information avoidance does not serve a self-protective function, then we would not have seen a relationship with feedback derogation, because there would be no need to make the feedback feel unimportant or meaningless.

Moreover, it remains theoretically and empirically unclear what mechanism should mediate the relationship between self-view threat and each specific mechanism of self-protection: It could be self-worth (Tesser et al., 1996), affect (Sedikides, 2021), self-complexity (Critcher & Dunning, 2015), goal tension (Gollwitzer et al., 2013; Lewin et al., 1936), changes in cognition (Wakslak & Trope, 2009), emotion regulation (Witte, 1994), or some other psychological resource. Are *self-handicapping* and *deciding to avoid information* and *self-affirmation* and *derogation* and *self-serving attributions* all truly redundant, and, irrespective of domain, able to maintain or restore an equivalent level of self-concept complexity (or an alternative self-resource)? Continuing to assume that each mechanism has an equivalent effect might prevent researchers from identifying situations when each mechanism is adaptive (or not), the specific self-resources that are implicated in that situation, and the relative contribution to changes in how people think, feel, and behave.

Information avoidance, as a proactive mechanism of self-protection, will allow more rigorous theoretical tests to examine the role of specific mediators and their boundary conditions. For example, in the context of information avoidance, it remains unclear whether people who decide to avoid are doing so because they do not think that they will be able to disengage from or otherwise neutralize the threat and people who do not decide to avoid feel that they can effectively neutralize the threat. The present research lays the foundation for this future work because it establishes that self-protection is happening in both instances: Information avoidance, as a proactive mechanism of self-protection, is replaced with feedback derogation, as a reactive mechanism of self-protection and further that people avoid information less in situations that reduce self-protection strivings (uncertainty, autonomy support).

Conclusion

In summary, four studies demonstrated a link between information avoidance and feedback derogation, offering initial evidence that information avoidance is part of a broader system of self-protection. Studies 1-3 provided correlational evidence that the predisposition to avoid health information is related to derogating feedback after it is received. Importantly, Study 3 ruled out the effect of self-selection and the content of feedback as alternative explanations. We interpret these studies to suggest that people who want to defensively avoid information, but decide not to, will turn to other self-protective strategies when faced with feedback (of any kind). Finally, Study 4 demonstrated a situation that should reduce defensiveness toward health information

generally—self-uncertainty—reduced both avoidance and derogation. In future work, researchers can explore the extent to which information avoidance is substitutable with other forms of defensiveness and further examine the role of important individual difference variables like information avoidance in theoretical models that predict how people respond to bad news about their health.

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Tables

Table 1*Table of measures*

Measure	Items	Scale	M	SD	α	λ_6
<u>Study 1a Heart-Disease</u>						
Predisposition to avoid health information (general)	8	1 = <i>strongly disagree</i> , 7 = <i>strongly agree</i>	2.91	1.55	0.92	0.97
Predisposition to avoid health information (heart disease)	8	1 = <i>strongly disagree</i> , 7 = <i>strongly agree</i>	2.70	1.52	0.91	0.97
Feedback Valence	-	1 = <i>significantly lower</i> , 9 = <i>significantly higher</i>	2.23	2.37	-	-
Feedback Derogation	5	1 = <i>strongly disagree</i> , 7 = <i>strongly agree</i>	3.08	1.13	0.79	0.89
<u>Study 1b Melanoma Skin Cancer</u>						
Predisposition to avoid health information (general)	8	1 = <i>strongly disagree</i> , 7 = <i>strongly agree</i>	3.08	1.28	0.87	0.91
Predisposition to avoid health information (melanoma)	8	1 = <i>strongly disagree</i> , 7 = <i>strongly agree</i>	2.96	1.27	0.86	0.91
Feedback Valence	-	1 = <i>significantly lower</i> , 9 = <i>significantly higher</i>	6.40	2.78	-	-
Feedback Derogation	5	1 = <i>strongly disagree</i> , 7 = <i>strongly agree</i>	3.87	1.36	0.88	0.90
<u>Study 2 Assigned Risk Test (1 of 9)</u>						
Predisposition to avoid health information (general)	8	1 = <i>strongly disagree</i> , 5 = <i>strongly agree</i>	2.13	0.87	0.91	0.92
Feedback Valence	-	1 = <i>significantly lower</i> , 9 = <i>significantly higher</i>	5.55	2.55	-	-
Feedback derogation	6	1 = <i>strongly disagree</i> , 5 = <i>strongly agree</i>	2.62	0.92	0.93	0.93
<u>Study 3 Risk of Spreading COVID-19</u>						
Predisposition to avoid health information (general)	8	1 = <i>strongly disagree</i> , 5 = <i>strongly agree</i>	1.85	0.68	0.85	0.89
Predisposition to avoid health information (COVID-19)	8	1 = <i>strongly disagree</i> , 5 = <i>strongly agree</i>	1.83	0.68	0.87	0.92
Feedback Derogation	12	1 = <i>strongly disagree</i> , 5 = <i>strongly agree</i>	2.62	0.78	0.92	0.94
<u>Study 4 Calories Information from Menu Selection</u>						
Feedback Derogation	1	1 = <i>strongly disagree</i> , 7 = <i>strongly agree</i>	4.10	2.00	-	-

Note. Table of measures used across all studies.

Table 2*Study 1a Means, Standard Deviations, and Correlations with Confidence Intervals*

Variable	<i>M</i>	<i>SD</i>	1	2	3
1. Predisposition to avoid (general)	2.91	1.55			
2. Predisposition to avoid (heart disease risk)	2.70	1.52	.78** [0.68, 0.86]		
3. Risk Feedback Valence	2.23	2.37	.14 [-0.08, 0.36]	.03 [-0.20, 0.25]	
4. Feedback Derogation	3.08	1.13	.37** [.10, .59]	.20 [-.08, .46]	.24 [-0.05, 0.48]

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$.

Table 3*Study 1b Means, Standard Deviations, and Correlations with Confidence Intervals*

Variable	<i>M</i>	<i>SD</i>	1	2	3
1. Predisposition to Avoid Health Information (General)	3.08	1.28			
2. Predisposition to Avoid Health Information (Melanoma)	2.96	1.27	.85** [.80, .89]		
3. Risk Feedback Valence	6.40	2.78	-.00 [-.16, .16]	-.02 [-.18, .14]	
4. Feedback Derogation	3.87	1.36	.20* [.02, .37]	.24** [.06, .40]	.21* [.03, .37]

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$.

Table 4*Study 2 Means, Standard Deviations, and Correlations with Confidence Intervals*

Variable	<i>M</i>	<i>SD</i>	1	2
1. Predisposition to Avoid Health Information (General)	2.13	0.87		
2. Risk Feedback Valence	5.55	2.55	.01 [-.05, .06]	
3. Feedback Derogation	2.62	0.92	.18** [.12, .24]	.26** [.20, .32]

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$.

Table 5*Study 2 Fixed-Effects ANOVA*

Predictor	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>	partial η^2	partial η^2 90% CI [LL, UL]
(Intercept)	499.12	1	499.12	640.68	.000		
Assigned Risk Test	67.65	8	8.46	10.85	.000	.08	[.05, .10]
Error	747.12	959	0.78				

Note. One-way fixed effects ANOVA predicting feedback derogation as a function of condition (assigned risk test), revealing that feedback derogation differed across risk tests. LL and UL represent the lower-limit and upper-limit of the partial η^2 confidence interval, respectively.

Table 6*Study 2 Mean and Standard Deviations of Feedback Derogation by Risk Test*

Assigned Risk Test	<i>M</i>	<i>SD</i>
Lung Cancer	3.01	0.95
Prediabetes	2.42	0.94
Stroke	2.55	0.90
Prostate Cancer	2.97	0.82
Diabetes	2.63	0.98
Heart Disease	2.15	0.72
Melanoma Skin Cancer	2.87	0.90
Colon Cancer	2.50	0.82
Breast Cancer	2.75	0.82

Note. *M* and *SD* represent mean and standard deviation, respectively.

Table 7*Study 2 Multi-Level Model Predicting Derogation from Predisposition to Avoid*

Model 1						Model 2				
<i>Fixed Effects</i>	Coef.	95% CI [LL, UL]	<i>t val.</i>	<i>df</i>	<i>p</i>	Coef.	95% CI [LL, UL]	<i>t val.</i>	<i>df</i>	<i>p</i>
Intercept	2.66	2.48, 2.85]	28.62	8.06	<.001	2.66	[2.48, 2.85]	28.70	8.05	<.001
Predisposition to avoid	0.19	[0.12, 0.26]	5.46	958.28	<.001	0.19	[0.13, 0.26]	5.46	957.26	<.001
Feedback Valence	-	-	-	-	-	0.07	[0.05, 0.10]	6.07	957.20	<.001
Model 1						Model 2				
<i>Random Effects</i>	Parameter	SD				Parameter	SD			
Assigned Risk Test	Intercept	0.27				Intercept	0.26			
Residual		0.87					0.85			
Model 1						Model 2				
<i>Model Fit</i>	AIC	BIC	<i>Pseudo- R²</i> (Fixed)	<i>Pseudo- R²</i> (Total)	ICC	AIC	BIC	<i>Pseudo- R²</i> (Fixed)	<i>Pseudo- R²</i> (Total)	ICC
	2511.86	2531.36	0.03	0.11	0.09	2484.61	2508.98	0.06	0.14	0.09

Note: Both models estimate a random intercept for derogation across groups while estimating the fixed effect of predisposition to avoid (model 1) and feedback valence (model 2). Both predictor variables were group-mean centered.

Table 8*Study 3 Means, Standard Deviations, and Correlations with Confidence Intervals*

Variable	<i>M</i>	<i>SD</i>	1	2
1. Predisposition to Avoid Health Information (General)	1.87	0.63		
2. Predisposition to Avoid Health Information (COVID-19 transmission risk specific)	1.84	0.66	.62** [.49, .72]	
3. Feedback Derogation	2.46	0.69	.23* [.04, .40]	.24* [.06, .41]

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$.

Table 9*Study 3 Regression Results Predicting Derogation from Predisposition to Avoid Health Information in General*

Predictor	<i>b</i>	<i>b</i> 95% CI [LL, UL]	<i>sr</i> ²	<i>sr</i> ² 95% CI [LL, UL]	Fit
(Intercept)	0.15*	[0.02, 0.29]			
Choice condition	-0.31**	[-0.51, -0.12]	.04	[-.01, .09]	
General health information avoidance	0.27**	[0.08, 0.46]	.03	[-.01, .07]	
Choice Condition: General health information avoidance	-0.02	[-0.31, 0.28]	.00	[-.00, .00]	
					<i>R</i> ² = .087** 95% CI[.02,.15]

Note. Includes interaction term to test for moderation of slopes between experimental conditions. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. *sr*² represents the semi-partial correlation squared. *LL* and *UL* indicate the lower and upper limits of a confidence interval, respectively.

* indicates $p < .05$. ** indicates $p < .01$.

Table 10*Study 3 Regression Predicting Derogation on Predisposition to Avoid Information Specific to Spreading COVID-19*

Predictor	<i>b</i>	<i>b</i> 95% CI [LL, UL]	<i>sr</i> ²	<i>sr</i> ² 95% CI [LL, UL]	Fit
(Intercept)	0.16*	[0.02, 0.30]			
Choice Condition	-0.32**	[-0.51, - 0.12]	.04	[-.01, .09]	
Covid Information Avoidance	0.28**	[0.08, 0.47]	.03	[-.01, .07]	
Choice condition: Covid Information Avoidance	-0.02	[-0.32, 0.27]	.00	[-.00, .00]	
					<i>R</i> ² = .088** 95% CI[.02,.15]

Note. Includes an interaction term to test for a moderation of slop between experimental conditions. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights. *sr*² represents the semi-partial correlation squared. *LL* and *UL* indicate the lower and upper limits of a confidence interval, respectively.

* indicates $p < .05$. ** indicates $p < .01$

Table 11*Age and Sex at Birth Descriptive Statistics Across All Studies*

Study	<i>N</i>	<i>M_{age}</i>	<i>SD_{age}</i>	<i>Min_{age}</i>	<i>Max_{age}</i>	% Women	% Men
Study 1a	75	30.45	12.39	19	69	42.67%	57.33%
Study 1b	150	33.08	12.61	18	81	46.67%	53.33%
Study 2	1144	44.04	16.52	18	92	51.31%	48.60%
Study 3	238	28.8	10.24	18	74	47.48%	50.42%
Study 4	243	20.2	2.51	18	42	69.55%	29.63%

Appendix A: Measurement Scales

Predisposition to Avoid Health Information

The predisposition to avoid health information in general was measured using the following items. The items below were used in Studies 1a, 1b, 2, and 3. To measure the predisposition to avoid information specific to the health threat assessed by the studies risk test, we replaced the phrase “my health” with the following stems: Study 1a: “my risk for heart disease;” Study 1b: my risk for melanoma skin cancer;” Study 3: my risk for spreading COVID-19 to others”. Response options varied: Study 1a and 1b: 1 = *strongly disagree*, 7 = *strongly agree*; Study 2 and 3: 1 = *strongly disagree*, 5 = *strongly agree*.

1. I would rather not know information about [my health].
2. I would avoid learning information about [my health].
3. Even if it will upset me, I want to know information about [my health]. **(Reverse Coded)**
4. When it comes to information about [my health], ignorance is bliss.
5. I want to know information about [my health]. **(Reverse Coded)**
6. I can think of situations in which I would rather not know information about [my health].
7. It is important to know information about [my health]. **(Reverse Coded)**
8. I want to know information about [my health] immediately. **(Reverse Coded)**

Information Avoidance Decision

Study 1a and 1b

Based on your responses to the risk test we can give you your comparative risk for heart disease [melanoma skin cancer at the end of this survey (Your risk will indicate whether you are at higher, lower, or at equal risk compared to the average person your age and gender).

Do you want to know your comparative risk?

- Yes, please give me my risk for heart disease [melanoma skin cancer]
- No, I do not want to learn my risk for heart disease [melanoma skin cancer]

Study 2

Based on your responses to the previous questions we can give you your comparative risk for $\{e://Field/cond\}$ at the end of this survey (Your risk will indicate whether you are at higher, lower, or at equal risk compared to the average person your age and sex assigned at

birth).

Do you want to know your comparative risk?

- Yes, please give me my risk for $\{e://Field/cond\}$
- No, I do not want to learn my risk for $\{e://Field/cond\}$

Note: the text presented to participants depended on their assignment to condition. For example, those assigned to the breast cancer condition viewed “my risk for breast cancer.”

Study 3

Based on your responses to the previous questions, we can give you your comparative risk for spreading COVID-19 at the end of this survey (Your risk will indicate whether you are at higher, lower, or at equal risk compared to the average person your age and gender).

Do you want to know your comparative risk?

- Yes
- No

Study 4

Do you want to know how many calories were actually in the meal you chose?

- Yes, please tell me how many calories were actually in the meal I chose
- No, I do not

Feedback Derogation

Feedback derogation was measured using the following items in response to the stem “My risk feedback is...;” the response scale and the specific items used varied across studies. Response scales used were as follows: Study 1a and 1b: 1 = *strongly disagree*, 7 = *strongly agree*; Study 2 and 3: 1 = *strongly disagree*, 5 = *strongly agree*. Study 1a, 1b used the following items: 1, 3, 4, 5, 6. Study 2 added item 16. We added the remaining items for Study 3 and preregistered the following items for our analysis: 1, 2, 3, 4, 5, 6, 10, 11, 12, 16, 17, and 18. The remaining items were preregistered as exploratory.

My risk feedback...

1. Is accurate (**Reverse Scored**)
2. Is trying to manipulate me
3. Does not represent my true risk
4. Is distorted
5. Is exaggerated
6. Is too extreme
7. Will affect my behavior
8. Is about what I expected (**Reverse Scored**)
9. Likely comes from scientifically based evidence (**Reverse Scored**)
10. Is stupid
11. Is pointless
12. Is useless
13. Is not relevant to me
14. Made me feel bad
15. Made me feel happy (**Reverse Scored**)
16. Is misleading
17. Makes me feel aggravated
18. Is irritating
19. Is meant for other people, not me
20. I already knew that I was at risk of spreading COVID-19
21. I'll change my behavior long before anything bad happens