# Information avoidance tendencies, threat management resources, and interest in genetic sequencing feedback

**Jennifer M. Taber, PhD**[1], **William M.P. Klein, PhD**[1], **Rebecca A. Ferrer, PhD**[1], **Katie L. Lewis, CGC**[2], **Peter R. Harris, PhD**[3], **James A. Shepperd, PhD**[4], and **Leslie G. Biesecker, MD**[2]

[1]National Cancer Institute, National Institutes of Health

[2]National Human Genome Research Institute, National Institutes of Health

[3]School of Psychology, University of Sussex

[4]Department of Psychology, University of Florida

## Abstract

**Background—**Information avoidance is a defensive strategy that undermines receipt of potentially beneficial but threatening health information and may especially occur when threat management resources are unavailable.

**Purpose—**We examined whether individual differences in information avoidance predicted intentions to receive genetic sequencing results for preventable and unpreventable (i.e., more threatening) disease and, secondarily, whether threat management resources of self-affirmation or optimism mitigated any effects.

**Methods—**Participants (*N*=493) in an NIH study (ClinSeq®) piloting the use of genome sequencing reported intentions to receive (optional) sequencing results and completed individual difference measures of information avoidance, self-affirmation, and optimism.

**Results—**Information avoidance tendencies corresponded with lower intentions to learn results, particularly for *unpreventable* diseases. The association was weaker among individuals higher in self-affirmation or optimism, but only for results regarding preventable diseases.

**Conclusions—**Information avoidance tendencies may influence decisions to receive threatening health information; threat management resources hold promise for mitigating this association.

### Keywords

Information Avoidance; Genomics; Genetics; Self-affirmation; Threat; Optimism

# INTRODUCTION

Health information may be threatening in that it can provide news of disease or elevated risk for disease (1) and obligate people to take unwanted action (2). People use many strategies to cope with unpleasant information and may respond defensively by minimizing its importance or denying its accuracy (3), or seeking information confirming prior beliefs (4). Information avoidance is a distinct strategy people employ without knowing how favorable the information is (1), and can be maladaptive when people avoid information with potentially beneficial health consequences, such as HIV test results or breast cancer risk assessments (5–7). People vary in the degree to which they avoid information as a strategy to deal with threatening information (8). Thus, understanding who is likely to avoid health information, when it is likely to occur, and how to reduce avoidance are important research goals with implications for clinical intervention.

Genome sequencing results about disease risk represent increasingly available sources of potentially threatening health information. Some genetic information pertains to conditions that are *medically actionable* or preventable—for which prevention or detection measures can reduce disease risk—such as susceptibility for heart disease or lung cancer (9, 10). On the other hand, some genetic information indicates risk for diseases that are *non-medically actionable* or unpreventable, such as Alzheimer or Parkinson disease (11, 12). This latter kind of information may be higher in threat but can still have benefits; for example, people who received genetic test results for Huntington disease reported improved knowledge and life planning (13), and people who learned of increased risk for Alzheimer disease reported improved health behaviors (14).

In the present study, we examined whether individual differences in generalized health information avoidance (8) predicted intentions to receive genome sequencing results for both *preventable* and *unpreventable* disease among individuals whose exomes were sequenced as part of a larger study piloting the use of genome sequencing designed to identify variants related to heart disease (ClinSeq®; 15). A subset of respondents were offered the opportunity to enroll in an ancillary study in which they reported their intentions to learn their genetic sequencing results for preventable and unpreventable disease if these results became available in the future. In prior research, ClinSeq® respondents expressed higher intentions to learn results pertaining to preventable than unpreventable disease (16). We expected to replicate this finding, and further expected that 1) participants high in information avoidance would be less interested in genome sequencing information, and 2) this association would be stronger for unpreventable disease.

In this study, we also considered how the association between information avoidance and intentions may be mitigated by psychological resources that help manage threat. Information avoidance tendencies can be reduced when people possess these resources, such as a belief they can cope with negative information (8). Here we explore two resources: self-affirmation and dispositional optimism, both of which buffer responses to a variety of threats. Self-affirmation (17) involves focusing on values and other characteristics important to one's sense of self that are unrelated to a threat, and in experimental research has reduced defensiveness in response to threatening health messages and promoted healthy behavior

(18, 19). In one study, individuals were less likely to avoid learning their disease risk when given an opportunity to self-affirm (20), even when the results obligated resource-intensive action and the disease was unpreventable. Theorists argue that these beneficial effects occur because people uncouple the threat from their self-concept and take a long-term view (18). The majority of research on self-affirmation has involved experimentally induced affirmations. However, people may differ in the extent to which they naturally self-affirm in response to threats (18). The present study included two spontaneous self-affirmation items taken from a full scale measuring this construct (21); in a paper using this same ClinSeq® sample, this 2-item scale was used to show that self-affirmation offset the effects of negative affective forecasts on intentions to learn sequencing results (22).

We also explored whether optimism – a personality trait indicating the degree to which individuals hold positive expectations about their future (23) – may be a resource that mitigates information avoidance. Because optimists use more active and fewer avoidance coping strategies (24), the effects of information avoidance on intentions to learn potentially threatening health information should also be weakened among optimists. By assessing the moderating effects of individual differences in both self-affirmation and optimism, we examined whether these constructs had similar effects. Our predictions for the effects of threat management resources did not differ for self-affirmation versus optimism. In sum, our model contained four principal variables, with information avoidance as the independent variable, intentions to learn genome sequencing results as the dependent variable, and self-affirmation and optimism as potential effect modifiers.

## METHODS

### Participants and procedure

Participants from the greater Bethesda, MD, USA, community were recruited for a study of genetic sequencing (ClinSeq®; 15) approved by The National Human Genome Research Institute's IRB. The study was advertised in local newspapers, in health care facilities, and by word of mouth. Of 998 participants enrolled, the 962 participants who had been enrolled for at least one month and had not received sequencing results were invited to complete a survey. All provided informed consent prior to enrollment in the sequencing study and again before the survey. The initial consent form stated that there may not be direct medical benefit, and that possible benefits included "free clinical testing for cholesterol and other lipids, diabetes, etc." and a free CAT scan. Participants were also informed that gene variants important to their health and/or the health of their relatives may be identified, but it was explicitly stated that, "It is possible that you may not learn anything from the genome sequencing part of the study." Altruism and personal health benefits were about equally endorsed motivators for participation by a previous subset of ClinSeq® enrollees, with few endorsing both (25).

The survey included items potentially related to genetic sequencing. We report only a subset of items pertinent to the present study and include data from the 493 participants who completed these items. Some of the items included in the present manuscript are also included in other manuscripts testing distinct hypotheses (22, 26–28). For example, we showed that self-affirmation offset the effects of negative affective forecasts on intentions to

learn results (22), and that optimism strengthened the association between comparative risk perceptions and intentions to learn results (26). Most of the 493 participants were White (92.3%) and about half were male (55%). Participants were on average 60.9 years old (*SD*=5.48), with 96.3% reporting greater than a high school education. The median household income was >$100,000. The sample was high in socioeconomic status but similar to other samples engaged in genetic testing research (29).

### Measures

Individual differences in *information avoidance* were assessed as the average of 8 items (8) assessing preferences for learning information about one's health on scales from 1 (*strongly disagree*) to 7 (*strongly agree*); e.g., "I would avoid learning everything about my health," "When it comes to my health, sometimes ignorance is bliss"; *α* =.827). This individual difference measure correlates with decisions to avoid feedback such as that given by risk calculators (8).

Two items assessed self-affirmation of strengths and values, respectively ("When I feel threatened or anxious I find myself thinking about my strengths [what I stand for]") from 1 (*strongly disagree*) to 5 (*strongly agree; r*=.728, *p*<.001). These items were taken from a longer scale (with subscale alphas >.89) currently in development of spontaneous self-affirmation (21); the items load highly on their respective subscales, and reliability of the subscales decreases when these items are omitted. Intentions to receive sequencing results were measured by two items assessing intentions to learn ("I intend to learn such a result," 1=*definitely no* to 5=*definitely yes*; "How likely is it that you will choose to learn about such a result?," 1=*extremely unlikely* to 7=*extremely likely*) results for preventable ("a gene variant that <u>predisposes you to a disease that can be prevented or treated</u>", *r*=.254, *p*<.001), and unpreventable disease ("a gene variant that <u>predisposes you to a disease that cannot be prevented or treated</u>", *r*=.729, *p*<.001). Dispositional optimism was assessed as the average of three items (In uncertain times, I usually expect the best; I'm always optimistic about my future; Overall, I expect more good things to happen to me than bad; *α*=.849) from the LOT-R (30) on scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Participants also reported age, gender, race/ethnicity, level of education, and average household income.

## RESULTS

The items assessing intentions to learn sequencing results were standardized and then averaged to form independent scales for preventable and unpreventable disease. Log transformations were applied to normalize the distribution (for preventable disease intentions: original kurtosis=2.69 and skew=−1.72, transformed kurtosis=−0.13 and skew=1.11; for unpreventable disease: original kurtosis=1.89 and skew=−1.55, transformed kurtosis=−0.63 and skew=0.86). The pattern of results did not differ when a square root transformation was applied to normalize the distribution of information avoidance, so all analyses used the original scores.

Participants reported relatively low information avoidance tendencies (*M*=2.07, *SD*=1.12). Before standardizing and transforming intention scores, participants reported high intentions to receive preventable (Intend to learn: *M*=4.65 out of 5, *SD*=0.69; Likely to learn: *M*=6.47

out of 7, *SD*= 1.14) and unpreventable disease results (Intend to learn: *M*=4.37, *SD*=0.92; Likely to learn: *M*= 6.17, *SD*=1.33). Consistent with research on another subset of ClinSeq® respondents (16), intentions to learn preventable results were higher than intentions to learn unpreventable results (*t*(490)=4.15, *p*<.001). Participants, on average, agreed that they self-affirmed spontaneously (*M*=3.12, *SD*=.86) and were optimistic (*M*=3.80, *SD*=0.73). Optimism and self-affirmation were positively correlated (*r*=.507, *p*<.001).

Zero-order correlations indicated that participants who reported relatively greater information avoidance tendencies reported lower intentions to receive both preventable (*r*= −.225, *p*<.001) and unpreventable (*r*=−.478, *p*<.001) disease results, consistent with our first prediction. Moreover, consistent with our second prediction, this association was significantly stronger for unpreventable than preventable disease (*z*=4.56, *p*<.001). Albeit weakly, greater self-affirmation (*r*= −.151, *p*=.001) and optimism (*r*= −.179, *p*<.001) corresponded with lower information avoidance tendencies, the former of which is consistent with prior experimental research (20).

Finally, we conducted four hierarchical linear regression analyses that tested whether information avoidance and either (1) self-affirmation tendencies or (2) dispositional optimism interacted to predict intentions to receive genetic sequencing results for preventable or unpreventable disease. Each analysis controlled for education and either self-affirmation or optimism, as shown in Tables 1 and 2. Education was controlled because of associations with intentions to learn preventable disease results (*r*=.081, *p*=.072) and self-affirmation (*r*=.080, *p*=.076). Age, gender, income, and race were uncorrelated with study variables and not included as covariates. Predictors were mean-centered before inclusion in regression analyses.

Results of all four analyses supported the hypothesis that greater information avoidance tendencies would be associated with lower intentions to receive sequencing results. Spontaneous self-affirmation and optimism were not significantly associated with intentions to learn either type of result. Of the four omnibus interactions tested, two reached at least marginal significance at *p*<.10 and were thus followed up with a test of simple slopes to test our hypotheses (31)[1]. Consistent with predictions, among participants lower in spontaneous self-affirmation, greater avoidance tendencies were associated with *lower* intentions to learn results (*β*=−.049, standard error (*SE*) =.010, 95 % confidence interval (CI$_{95\%}$) =−.068 to −.029, *p*<.001). Although the pattern was similar among participants higher in spontaneous self-affirmation, it was weaker (*β*=−.023, *SE* =.010, CI$_{95\%}$= −.044 to −.003, *p*=.023).

We observed the same pattern for optimism. Among participants lower in optimism, greater avoidance tendencies were associated with lower intentions to learn results (*β*=−.046, *SE* =.009, CI$_{95\%}$=−.064 to −.029, *p*<.001); the effect was similar yet notably weaker among those higher in optimism (*β*=−.022, *SE* =.011, CI$_{95\%}$= −.043 to −.001, *p*=.046). We conceptualized

---

[1]When we examined the two self-affirmation items separately, affirming one's strengths moderated the effect of information avoidance on intentions to learn preventable disease results (*β*=.017, *SE*=.007, CI$_{95\%}$.02 to .03, *p* =.025), whereas affirming one's values did not (*β*=.008, *SE*=.007, CI$_{95\%}$=−.01 to .02, *p* =.275). The interaction pattern for affirmation of strengths was similar to that seen for the full self-affirmation scale. Neither item significantly interacted with information avoidance to predict intentions to learn results for unpreventable disease. Because little is known about how different types of self-affirmation function, we do not discuss this finding further.

self-affirmation and optimism as resources people may draw on when facing threatening information. When affirmation and optimism are measured rather than manipulated, they may tap into an overlapping resource. Consistent with this, when we included the interactions of self-affirmation X information avoidance and optimism X information avoidance in the same analysis, neither interaction significantly predicted intentions to learn unpreventable disease results.

## DISCUSSION

Consistent with predictions, community participants in a genome sequencing study who reported relatively greater information avoidance tendencies were less interested in learning genetic sequencing results for preventable diseases and even less so for unpreventable diseases (6). These findings emerged despite overall low levels of information avoidance and substantial interest in the sequencing results. This study is the first to examine how individual differences in information avoidance are related to intentions to receive consequential health information, and shows that information avoidance tendencies are sensitive to the nature of the information.

The negative effect of avoidance tendencies on intentions to get risk feedback about preventable disease tended to be weaker among participants higher in self-affirmation or higher in optimism. Thus, threat management resources may mitigate the negative association between information avoidance and interest in results. These data expand on prior work showing that experimentally-induced self-affirmation reduced avoidance of health information (20) and that optimism is associated with more active coping strategies (24). These data also suggest that threat management resources may mitigate information avoidance only when threatening health information is most helpful, such as when preventive action can be taken. This finding is important given evidence that self-affirmation facilitates the development of plans to change behavior (32), and even more so when pairing affirmations with implementation intentions (33).

Self-affirmation and optimism showed similar relationships with intentions and tendencies to avoid information, and neither of the interaction terms were significant when both were included in the same regression. Although the constructs have distinct face validity, when measured, they may operate through the same mechanism to confer similar benefits in terms of reduced defensiveness in response to threat. Research using the full scales of each construct is necessary to determine whether they are distinct when both assessed as individual differences.

The study has several limitations. The study was cross-sectional and causality cannot be determined. The sample was primarily White, and the high education and income of the sample raises questions about replication among people with potentially fewer resources to cope with unfavorable risk feedback (8). Of note, participants were recruited from the Washington, DC area, which has a high cost of living and concomitantly high salaries (34). Further, most studies of genetic testing occur in high-risk settings (35). Although research on a nationally representative sample would be more generalizable to the U.S. adult population, it would not represent the self-selected individuals who are currently making

decisions about learning sequencing results. Receipt of genetic results was a possible benefit of participation, and some participants may have been especially motivated to learn results (25). Additionally, participants reported low levels of health information avoidance, although comparable to other samples (8). Intentions served as the outcome measure and may be higher than uptake (36), creating a ceiling effect that likely led to weaker effects than if we had examined uptake. Further, it is unknown whether resources only facilitated interest in learning genetic information or if they would also prompt action. However, prior research has shown that self-affirmation does increase action (37, 38). A final limitation is the measurement of self-affirmation and optimism with shortened scales, and future research would benefit from using the full scales (21, 30).

A major promise of genomic information is its potential to reduce disease by identifying elevated risk in time for behavior changes (35), regardless of whether a disease is medically actionable. Learning one's risk for unpreventable diseases may help people make lifestyle, reproductive, and other decisions, and diseases that are currently unpreventable may not remain so as science advances. However, genetic information will improve health only if people are receptive to it. Based on these findings, genetic counselors could identify patients who may be more likely to avoid beneficial health information by measuring tendencies to avoid information (and availability of threat management resources) and adapting the counseling accordingly.

# References

1. Sweeny K, Melnyk D, Miller W, Shepperd JA. Information avoidance: Who, what, when, and why. Rev Gen Psychol. 2010; 14:340–353.

2. Howell JL, Shepperd JA. Behavioral obligation and information avoidance. Ann Behav Med. 2013; 45:258–263. [PubMed: 23225264]

3. Jemmott JB, Ditto PH, Croyle RT. Judging health status: Effects of perceived prevalence and personal relevance. J Pers Soc Psychol. 1986; 50:899–905. [PubMed: 3712230]

4. Smith SM, Fabrigar LR, Norris ME. Reflecting on six decades of selective exposure research: Progress, challenges, and opportunities. Soc Pers Psychol Compass. 2008; 2:464–493.

5. Barbour JB, Rintamaki LS, Ramsey JA, Brashers DE. Avoiding health information. J Health Commun. 2012; 17:212–229. [PubMed: 22004015]

6. Melnyk D, Shepperd JA. Avoiding risk information about breast cancer. Ann Behav Med. 2012; 44:216–224. [PubMed: 22740364]

7. Hightow LB, Miller WC, Leone PA, et al. Failure to return for HIV posttest counseling in an STD clinic population. AIDS Educ Prev. 2003; 15:282–290. [PubMed: 12866839]

8. Howell JL, Crosier B, Shepperd JA. Does Lacking Threat-Management Resources Increase Information Avoidance? A Multi-sample, Multi-method Investigation. J Research Pers. 2014; 50:102–109.

9. Kaphingst KA, McBride CM, Wade C, et al. Patients' understanding of and responses to multiplex genetic susceptibility test results. Genet Med. 2012; 14:681–687. [PubMed: 22481132]

10. Sanderson SC, Humphries SE, Hubbart C, et al. Psychological and behavioural impact of genetic testing smokers for lung cancer risk: a phase II exploratory trial. J Health Psychol. 2008; 13:481–494. [PubMed: 18420756]

11. Green RC, Roberts JS, Cupples LA, et al. Disclosure of APOE genotype for risk of Alzheimer's disease. N Engl J Med. 2009; 361:245–254. [PubMed: 19605829]

12. Falcone DC, Wood EM, Xie SX, Siderowf A, Van Deerlin VM. Genetic testing and Parkinson disease: assessment of patient knowledge, attitudes, and interest. J Genet Couns. 2011; 20:384–395. [PubMed: 21476119]

13. Williams JK, Erwin C, Juhl A, et al. Personal factors associated with reported benefits of Huntington disease family history or genetic testing. Genet Test Mol Biomarkers. 2010; 14:629–636. [PubMed: 20722493]

14. Chao S, Roberts JS, Marteau TM, et al. Health behavior changes after genetic risk assessment for Alzheimer disease: The REVEAL Study. Alzheimer Dis Assoc Disord. 2008; 22:94–97. [PubMed: 18317253]

15. Biesecker LG, Mullikin JC, Facio FM, et al. The ClinSeq Project: piloting large-scale genome sequencing for research in genomic medicine. Genome Res. 2009; 19:1665–1674. [PubMed: 19602640]

16. Facio FM, Eidem H, Fisher T, et al. Intentions to receive individual results from whole-genome sequencing among participants in the ClinSeq study. Eur J Hum Genet. 2013; 21:261–265. [PubMed: 22892536]

17. Steele, CM. The psychology of self-affirmation: Sustaining the integrity of the self. In: Berkowitz, L., editor. Advances in experimental social psychology, Vol. 21: Social psychological studies of the self: Perspectives and programs. San Diego, CA: Academic Press; 1988. p. 261-302.

18. Cohen GL, Sherman DK. The psychology of change: self-affirmation and social psychological intervention. Annu Rev Psychol. 2014; 65:333–371. [PubMed: 24405362]

19. Harris PR, Epton T. The impact of self-affirmation on health-related cognition and health behaviour: Issues and prospects. Soc Pers Psychol Compass. 2010; 4:439–454.

20. Howell JL, Shepperd JA. Reducing information avoidance through affirmation. Psychol Sci. 2012; 23:141–145. [PubMed: 22241812]

21. Harris, PR.; Napper, L.; Griffin, DW.; Schuez, B.; Stride, C. Developing a measure of spontaneous self-affirmation. Manuscript in Preparation

22. Ferrer RA, Taber JM, Klein WMP, et al. The role of current affect, anticipated affect, and spontaneous self-affirmation in decisions to receive self-threatening genetic risk information. Cogn Emot. 2014

23. Carver, CS.; Scheier, MF. Optimism. In: Snyder, CR.; Lopez, SJ., editors. Handbook of Positive Psychology. New York, NY US: Oxford University Press; 2002. p. 231-243.

24. Nes LS, Segerstrom SC. Dispositional Optimism and Coping: A Meta-Analytic Review. Pers Soc Psychol Rev. 2006; 10:235–251. [PubMed: 16859439]

25. Facio FM, Brooks S, Loewenstein J, et al. Motivators for participation in a whole-genome sequencing study: implications for translational genomics research. Eur J Hum Genet. 2011; 19:1213–1217. [PubMed: 21731059]

26. Taber JM, Klein WMP, Ferrer RA, et al. Dispositional optimism and perceived risk interact to predict intentions to learn genome sequencing results. Health Psychol. 2014

27. Taber JM, Klein WMP, Ferrer RA, et al. Perceived ambiguity as a barrier to intentions to learn genome sequencing results. J Behav Med. 2015

28. Lewis, KL.; Han, PK.; Hooker, GW., et al. Characterizing participants in the ClinSeq® genomic sequencing cohort as early adopters of a new health technology. Manuscript submitted for publication

29. Hensley Alford S, McBride CM, Reid RJ, et al. Participation in genetic testing research varies by social group. Public Health Genomics. 2011; 14:85–93. [PubMed: 20299772]

30. Scheier MF, Carver CS, Bridges MW. Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): a reevaluation of the Life Orientation Test. J Pers Soc Psychol. 1994; 67:1063–1078. [PubMed: 7815302]

31. Hayes, AF. Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. New York, NY US: Guilford Press; 2013.

32. Ferrer RA, Shmueli D, Bergman HE, Harris PR, Klein WMP. Effects of self-affirmation on implementation intentions and the moderating role of affect. Soc Psychol Pers Sci. 2012; 3:300–307.

33. Harris PR, Brearley I, Sheeran P, et al. Combining Self-Affirmation With Implementation Intentions to Promote Fruit and Vegetable Consumption. Health Psychol. 2014; 33:729–736. [PubMed: 24490648]

34. Office of Personnel Management. 2014 general schedule (GS) locality pay tables. Washington, DC: Author; 2014. Retrieved from http://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/2014/general-schedule/

35. McBride CM, Koehly LM, Sanderson SC, Kaphingst KA. The behavioral response to personalized genetic information: will genetic risk profiles motivate individuals and families to choose more healthful behaviors? Annu Rev Public Health. 2010; 31:89–103. [PubMed: 20070198]

36. Sanderson SC, O'Neill SC, Bastian LA, Bepler G, McBride CM. What can interest tell us about uptake of genetic testing? Intention and behavior amongst smokers related to patients with lung cancer. Public Health Genomics. 2010; 13:116–124. [PubMed: 19556750]

37. Harris PR, Epton T. The impact of self-affirmation on health cognition, health behaviour and other health-related responses: A narrative review. Soc Pers Psychol Compass. 2009; 3:962–978.

38. Epton T, Harris PR, Kane R, van Koningsbruggen GM, Sheeran P. The impact of self-affirmation on health-behavior change: A meta-analysis. Health Psychol. 2015; 34:187–196. [PubMed: 25133846]

**Table 1**

Unstandardized beta weights and standard errors for regression analyses of spontaneous self-affirmation, information avoidance tendencies, and their interaction predicting intentions to receive genome sequencing results for preventable disease and unpreventable disease, controlling for education and optimism.

| | Preventable disease | | | | Unpreventable disease | | | |
|---|---|---|---|---|---|---|---|---|
| | β | SE | 95% CI | p | β | SE | 95% CI | p |
| Education | .019 | .010 | [−0.002, 0.04] | .069 | −.014 | .009 | [−0.04, 0.01] | .201 |
| Optimism | −.005 | .013 | [−0.03, 0.02] | .691 | .017 | .014 | [−0.01, 0.04] | .235 |
| Spontaneous self-affirmation | .008 | .011 | [−0.01, 0.03] | .485 | −.004 | .012 | [−0.03, 0.02] | .763 |
| Information avoidance | −.036 | .007 | [−0.05, −0.02] | <.001 | −.091 | .008 | [−0.11, −0.08] | <.001 |
| Spontaneous self-affirmation X Information avoidance | .014 | .008 | [−0.001, 0.03] | .069 | .000 | .008 | [−0.02, 0.02] | .960 |

*Note.* CI = confidence interval.

**Table 2**

Unstandardized beta weights and standard errors for regression analyses of optimism, information avoidance tendencies, and their interaction predicting intentions to receive genome sequencing results for preventable disease and unpreventable disease, controlling for education and spontaneous self-affirmation.

|  | Preventable disease | | | | Unpreventable disease | | | |
|---|---|---|---|---|---|---|---|---|
|  | β | SE | 95% CI | p | β | SE | 95% CI | p |
| Education | .019 | .010 | [−0.001, 0.04] | .062 | −.014 | .011 | [−0.04, 0.01] | .206 |
| Spontaneous self-affirmation | .008 | .011 | [−0.01, 0.03] | .446 | −.004 | .012 | [−0.03, 0.02] | .759 |
| Optimism | −.006 | .013 | [−0.03, 0.02] | .642 | .015 | .014 | [−0.01, 0.04] | .273 |
| Information avoidance | −.034 | .007 | [−0.05, −.02] | <.001 | −.089 | .008 | [−0.11, −0.07] | <.001 |
| Optimism X Information avoidance | .017 | .009 | [0.00, 0.04] | .054 | .011 | .010 | [−0.01, 0.03] | .268 |

*Note.* CI = confidence interval.