-- SUPPLEMENTAL FILES --

Appealing to Motivation to Change Attitudes, Intentions, and Behavior: A Systematic Review and Meta-Analysis of 702 Experimental Tests of the Effects of Motivational Message Matching on Persuasion

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Sections of the Supplemental Materials

Section 1. Adherence to PRISMA (2020) Guidelines.

In this section, we provide an annotated checklist outlining out review's adherence to PRISMA 2020 guidelines.

Table S1. Annotated PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location item is reported	Notes
TITLE				
Title	1	Identify the report as a systematic review.	Title	Report is clearly labelled as a systematic review and meta-analysis
ABSTRACT				
Abstract	2a	Identify the report as a systematic review.	Abstract	Identified as a systematic review and three-level meta-analysis
	2b	Provide an explicit statement of the main objective(s) or question(s) the review addresses.	Abstract	Summary elements of the project's PICOS question are provided: the Population is omitted as the synthesis concerns the whole human population; the Intervention is described as involving functional message matching; the specific types of Comparisons are omitted for simplicity; the four outcomes of interest are listed, and; the Study Type is defined as experiments. We also note several of the moderators examined but required brevity to stay within word limits.
	2c	Specify the inclusion and exclusion criteria for the review.	Abstract	Given the large number of inclusion/exclusion criteria, it is not possible to include these fully. However, the provision of PICOS elements provides an overview at a theoretical level of the most important criteria.
	2d	Specify the information sources (such as databases, registers) used to identify studies and the date when each was last searched.	Abstract	We specify that articles were mainly identified from APA PsycInfo, MEDLINE, Scopus up to December 2018
	2e	Specify the methods used to assess risk of bias in the included studies.	Abstract	We note the tools we use (e.g., funnel plots, sensitivity analyses)

Section and Topic	Item #	Checklist item	Location item is reported	Notes
	2f	Specify the methods used to present and synthesise results.	Abstract	We note that we use a three-level meta-analysis
	2g	Give the total number of included studies and participants and summarise relevant characteristics of studies.	Abstract	We note that we meta-analyzed "702 experimental studies on motivational matching (synthesizing 5,251 effect sizes from N = 206,482)". The most relevant characteristic of studies is that they followed an experimental design, so we ensure to mention this.
	2h	Present results for main outcomes, preferably indicating the number of included studies and participants for each. If meta-analysis was done, report the summary estimate and confidence/credible interval. If comparing groups, indicate the direction of the effect (that is, which group is favoured).	Abstract	Due to space limitations, we note the total number of studies meta-analyzed (the number of effect size estimates synthesized, and the overall *N*), along with the overall meta-analytic estimate we obtain when pooling across all studies (i.e., r = .20, along with the corresponding confidence interval). We emphasize direction by stating that functional matching "increases persuasion".
	2i	Provide a brief summary of the limitations of the evidence included in the review (such as study risk of bias, inconsistency, and imprecision).	Abstract	We note the presence of substantial heterogeneity in effect sizes across studies.
	2j	Provide a general interpretation of the results and important implications.	Abstract	We note the direction of the effect, that motivational matching significantly improves persuasive communication effects on the four primary outcomes and that the observed effect is large compared to other types of meta-analytic effects. Keeping space constraints in mind, we opt to convey the types of moderation effects we examine over further discussing the implications of the primary main effect estimate, as these moderation effects are important elements of the review.
	2k	Specify the primary source of funding for the review.	Abstract	The review was not itself funded. Funding to authors (e.g., fellowship awarded to lead author) is noted in author information.
	2l	Provide the register name and registration number.	Abstract	We note that the study was registered with PROSPERO (named register) and provide the

Section and Topic	Item #	Checklist item	Location item is reported	Notes
				registration number. The review was also registered with the Open Science Framework, and we provide a link/DOI to that registration.
INTRODUCTION				
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Throughout Introduction	We provide an extensive overview of the background literature, along with several motivating reasons for our review, throughout our introduction.
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Throughout introduction; primary goals and hypotheses further delineated with labels (H1, H2… RQ).	Early in the introduction, we note that our "primary goal of this systematic review and meta-analysis is to provide a precise estimate of the average effect size of motivational matching". This goal is tied to the 1st hypothesis we present. We also clearly delineate 3 key principles we wish to evaluate as important additional goals. The primary focus is reiterated several times in the introduction. The beginning of the methods operationalizes the main objective in a PICOS framework.
METHODS				
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	See Sections: "Inclusion/Exclusion Criteria" "Primary Outcomes" "Effects Extraction and Metric Choice" "Meta-Analytic Statistical Procedure"	Our methods provide detailed descriptions of each inclusion and exclusion criteria. These are in accordance with the PICOS formulation of the research question we outline. Syntheses were grouped predominantly according to which of the 4 primary outcomes were examined and whether effects corresponded to main effects vs. interactions. These distinctions are defined in the text, and reiterated in our section "Meta-Analytic Statistical Procedure".
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Section "Search Strategy"	The details on the search strategy are provided in detail in our methods section (including information on the databases consulted, reference lists, and dates during which searches occurred). The appendices, along with the reference Joyal-Desmarais (2020) provide additional details, and

Section and Topic	Item #	Checklist item	Location item is reported	Notes
				this is stated in text.
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Supplemental materials.	The full search strategy is provided in our supplemental files for all databases searched.
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Sections: "Identifying Relevant Records, Reports, and Studies" "Coding and Data Extraction" Joyal-Desmarais (2020)	The section "Identifying Relevant Records , Reports, and Studies" delineates how studies were determined to meet inclusion criteria. Our project page, and Joyal-Desmarais (2020), provide exact codebooks and decision rules in more detail (and this is indicated in the report). We note that most reports were screened/coded by 1 reviewer, but that a subset was evaluated for reliability. Additional details are provided in the supplemental materials and in Joyal-Desmarais (2020).
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Section "Coding and Data Extraction", with further details in supplemental files.	Coding and data extraction procedures are described in our methods. Due to space constraints, we omit some details, but note that a more complete account is available in Joyal-Desmarais (2020), and through our project page, and also provide additional details in the supplemental files.
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Sections: "Primary Outcomes" "Effects Extraction and Metric Choice" Supplemental files. Joyal-Desmarais (2020)	In the section "Primary Outcomes", we defined our operationalization of the four main outcomes of interest. Our project page, and Joyal-Desmarais (2020) provides our codebook and dictionary that provide even further details (these files are mentioned in our methods). We note that "For each study, we extracted every eligible effect reported in sufficient detail to express in the metric r". Because our analyses could handle dependencies between effect size estimates, we did exclude any effect size we could extract that met inclusion criteria.
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics,	Sections: "primary moderators"	We note "primary moderators" and "secondary moderators" in the relevant sections. Primary

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		funding sources). Describe any assumptions made about any missing or unclear information.	"secondary moderators" Supplemental files.	moderators are defined in more detail in our introduction, and additional details is provided when relevant in our results section to clarify the nature of each variable. Given the very large number of variables extracted, we cannot define each in text, but do so in the supplemental files as well as in Joyal-Desmarais (2020).
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Sections: "Identifying Relevant Records, Reports, and Studies" "Coding and Data Extraction" "Examination of bias"	The methods used to evaluate risk of bias are noted in the section called "Examination of bias". The procedure reviewers followed (e.g., independent coding) is detailed in our sections on identifying records, reports and studies as well as in the section detailing the coding.
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Section "Effects Extraction and Metric Choice"	This is described in our methods section describing our metric choice
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Sections: "Primary Outcomes" "Effects Extraction and Metric Choice" "Meta-Analytic Statistical Procedure" Joyal-Desmarais (2020)	Given the very large number of studies and effect sizes, we cannot provide full details broken down by study for each synthesis. However, the grouping variables are each well-defined (see answer to item 5. The codebook and dictionary files on our project page and in Joyal-Desmarais (2020) provide further details.
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Section "Effects Extraction and Metric Choice"	We note how conversions were made to our metric of choice r.
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Throughout results and supplemental materials	We provide tables (in the main text and in the supplemental materials), forest plots (in the main text and in the appendix), and funnel-plots (in the main text and supplemental materials). We describe some of these in the methods (e.g., funnel plots) and guide the readers throughout the

Section and Topic	Item #	Checklist item	Location item is reported	Notes
				results section. Throughout, we use the first table of results as a template for organizing findings and refer back to it at several times.
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Section "Meta-Analytic Statistical Procedure"	The method for handling data and conducting the meta-analytic modeling is described in our methods and described even more extensively in Joyal-Desmarais (2020)
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Section "Meta-Analytic Statistical Procedure"	We note the use of subgroup analyses (using meta-regression) in our methods. This is discussed under the label/concept of "moderation".
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Section "examination of bias"	This information is provided in our methods section on "examination of bias"
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Section "examination of bias"	This information is provided in our methods section on "examination of bias"
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Tables, methods, and supplemental materials	We mention and discuss our assessment of certainty in the methods and note that it is guided by GRADE. We provide some details in a table, and give extensive information within our supplemental materials on the method and decision criteria we applied.
RESULTS				
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Figure 3.	A flow diagram is provided with these details
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Figure 3 and section "Identifying Relevant Records , Reports, and Studies"	Due to space constraints, it is not possible to cite and discuss all studies that were evaluated at the full-text level, but ultimately excluded. However, reasons for exclusions are summarized within the flow diagram and complemented by in-text descriptions in the section "Identifying Relevant Records, Reports, and Studies". A file containing

Section and Topic	Item #	Checklist item	Location item is reported	Notes
				specific reasons for all studies screened is provided via our project page.
Study characteristics	17	Cite each included study and present its characteristics.	Reference list Project page	All studies are cited in the current report. There are too many studies (702) to include a detailed description in the report itself. Instead, we include a dataset on our project page that lists every study (and effect size estimate coded), along with some information on each. We also provide a summary table on our Project page describing all studies.
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Project Page	There are too many studies (702) to include a detailed description in the report itself. This information is therefore instead provided in the dataset contained on our project page.
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Project Page	There are too many studies (702 studies in final report) to include a detailed description in the report itself. This information is therefore instead provided for each study in the dataset contained on our project page.
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Project Page Supplemental materials	There are too many studies (702 studies in final report) and syntheses to include a detailed description in the report itself. The dataset included on our project page summarizes the studies, and the supplemental materials provide additional details on risk of bias analyses that were conducted (broken down by outcome types and effect types).
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Results section (figures and tables) Supplemental materials.	For every statistical synthesis conducted, summary estimates and confidence intervals are presented in our manuscript (either in tables or figures). The supplemental materials (together with our first summary table of results in the manuscript) additionally present indices of heterogeneity for every meta-analytic model.
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Results section Supplemental	Details findings for all moderation tests are provided in detail in the supplemental materials.

Section and Topic	Item #	Checklist item	Location item is reported	Notes
			materials.	The main manuscript presents summaries of the analyses.
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Results section Supplemental materials.	Details findings for all sensitivity analyses are provided in detail in the supplemental materials. The main manuscript presents summaries of the analyses.
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Results section Supplemental materials.	The results section and our supplemental materials provide sensitivity analyses and funnel plots to examine missing results for our primary analyses (i.e., evaluating H1 on all four outcomes). Some of our Risk of bias variables also include incomplete reporting within studies.
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Discussion, table 4 and supplemental materials	An assessment of certainty is provided in table 4 and discussed in text for our primary outcomes/inferences. The supplemental materials provide additional information on these assessments.
DISCUSSION				
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Discussion	The discussion provides general interpretations and ties them back to the broader context of the field.
	23b	Discuss any limitations of the evidence included in the review.	Discussion	Limitations are addressed in the discussion (e.g., confounds in data and designs used by studies)
	23c	Discuss any limitations of the review processes used.	Discussion	Limitations are addressed in the discussion (e.g., moderation relies on synthesis generated evidence; exclusion of grey literature)
	23d	Discuss implications of the results for practice, policy, and future research.	Discussion	Provided in the discussion
OTHER INFORMATION				
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Abstract, Methods	This information is provided both in the abstract and at the beginning of the methods section.
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Abstract, Methods	Links to access the protocol are provided

Section and Topic	Item #	Checklist item	Location item is reported	Notes
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	Endnote; Joyal-Desmarais (2020)	The protocol was not amended, but the current report simplified certain analyses to improve readability and interpretation. We provide a note to this effect and note that the exact analyses described in the protocol are available in another publicly available report: Joyal-Desmarais (2020)
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Author notes	Sources of financial support are noted.
Competing interests	26	Declare any competing interests of review authors.	Author notes	A note explicitly declaring no competing interests is provided.
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	Section on open science practices; Joyal-Desmarais (2020)	We provide numerous files (including a codebook, R code, raw data), and note where to find them (either our project page or Joyal-Desmarais (2020).

Note: Adapted from: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

Section 2. Full Registered Search Strategy

Electronic Search Strings. Tables S2, S3, and S4 present the electronic search queries used with *PsycInfo, MEDLINE,* and *Scopus,* respectively. The search strategies are broken up into steps for simplicity and organization of search terms. The steps were applied in order during the search process. However, a single search string can also combine every step to achieve the same result.

Table S2. Electronic Search Strategy for Use with *PsycInfo*

Steps	Label[a]	Search String
1	**Theoretically Preferred terms**	
1.1	a	((congruen* AND advert*) OR (congruen* AND appeal*) OR (congruen* AND messag*) OR (match* AND advert*) OR (match* AND appeal*) OR (match* AND messag*) OR (mismatch* AND advert*) OR (mismatch* AND appeal*) OR (mismatch* AND messag*) OR (tailor* AND appeal*) OR (tailor* AND messag*)).ab,id,ti.
1.2	b	((frame* ADJ3 advert*) OR (frame* ADJ3 appeal*) OR (messag* ADJ3 fram*) OR (tailor* ADJ3 advert*)).ab,id,ti.
1.3	c	(("functionally matched") OR (functional match*) OR (Psychological* tailor*) OR (Psychological* target*)).ab,id,ti.
2	**Additional Specific terms**	
2.1	a	((congru* AND ("construal level")) OR (match* AND ("construal level")) OR (match* AND ("self-construal")) OR (match* AND ("stage* of change")) OR (non-gain AND fram*) OR (non-loss AND fram*) OR (tailor* AND ("construal level")) OR (tailor* AND ("self-construal"))).ab,id,ti.
2.2	b	((congruen* ADJ3 fram*) OR (cultur* ADJ2 messag*) OR (cultur* ADJ3 appeal*) OR (gain ADJ3 fram*) OR (individuali* ADJ3 advert*) OR (individuali* ADJ3 appeal*) OR (loss ADJ3 fram*) OR (motiv* ADJ2 tailor*) OR (negative* ADJ appeal*) OR

		(negative* ADJ fram*) OR (positive* ADJ fram*) OR (positive* ADJ3 appeal*) OR (tailor* ADJ3 feedback*) OR (tailor* ADJ3 print) OR (target* ADJ3 print)).ab,id,ti.
2.3	c	(("attitud* function*") OR ("computer tailor*") OR ("congruency hypothesis") OR ("cultural tailoring") OR ("self-congruence") OR (gain-frame*) OR (loss-frame*) OR (message fit)).ab,id,ti.
2.4	d	((congru* AND (hedonic AND utilitarian)) OR (congru* AND (value-expressive AND utilitarian)) OR (match* ADJ3 (frame OR framing OR frames)) OR (match* AND (social-adjustive AND value-expressive)) OR (match* AND ("transtheoretical model") AND (appeal* OR messag* OR advert*)) OR (match* AND (value-expressive AND knowledge)) OR (match* AND (value-expressive AND utilitarian)) OR ((messag* OR appeal*) AND (congru*) AND ("self-construal")) OR ((messag* OR appeal*) AND (congru*) AND (individual* AND collectiv*)) OR ((messag* OR appeal*) AND (congru*) AND (interdependen* AND independen*)) OR ((messag* OR appeal*) AND (congru*) AND (self-monitor*)) OR ((messag* OR appeal*) AND (fit) AND ("self-construal")) OR ((messag* OR appeal*) AND (fit) AND (individual* AND collectiv*)) OR ((messag* OR appeal*) AND (fit) AND (interdependen* AND independen*)) OR ((messag* OR appeal*) AND (match*) AND (individual* AND collectiv*)) OR ((messag* OR appeal*) AND (match*) AND (interdependen* AND independen*)) OR ((messag* OR appeal*) AND (match*) AND (self-monitor*)) OR ((messag* OR appeal*) AND (tailor*) AND (individual* AND collectiv*)) OR ((messag* OR appeal*) AND (tailor*) AND (interdependen* AND independen*)) OR (mismatch* ADJ3 (frame OR framing OR frames)) OR (tailor* AND ("stage* of change") AND (appeal* OR messag* OR advert*)) OR (tailor* AND ("transtheoretical model") AND (appeal* OR messag* OR advert*)) OR (tailor* AND communicat* AND generic)).ab,id,ti.
3	**Subject Heading**	
3.1		("Framing Effects").mh,sh.
4	**Limits**	
4.1		NOT (Authored Book OR Book OR Chapter OR Edited Book).pt
4.2		and English.lg.

[a]For Labels: a = 2 terms combined with an "AND" operator; b = 2 terms combined with an adjacency operator; c = exact expressions (allowing wildcard); d = more complex combination of 3 or more terms.

Table S3. Electronic Search Strategy for Use with *MEDLINE*

Steps	Label[a]	Search String
1	**Theoretically Preferred terms**	
1.1	a	((congruen* AND advert*) OR (congruen* AND messag*) OR (match* AND appeal*) OR (match* AND messag*) OR (mismatch* AND advert*) OR (mismatch* AND appeal*) OR (mismatch* AND messag*) OR (tailor* AND appeal*)).mp.
1.2	b	((congruen* ADJ3 appeal*) OR (frame* ADJ3 advert*) OR (frame* ADJ3 appeal*) OR (match* ADJ3 advert*) OR (messag* ADJ3 fram*) OR (tailor* ADJ messag*) OR (tailor* ADJ3 advert*)).mp.
1.3	c	(("functionally matched") OR (functional match*) OR (psychological* tailor*) OR (psychological* target*)).mp.
2	**Additional Specific terms**	
2.1	a	((congru* AND ("construal level")) OR (congru* AND ("self-construal")) OR (fit AND ("self-construal")) OR (match* AND ("construal level")) OR (match* AND ("self-construal")) OR (match* AND ("stage* of change")) OR (match* AND ("transtheoretical model")) OR (match* AND ("volunteer function*")) OR (non-gain AND fram*) OR (non-loss AND fram*) OR (tailor* AND ("construal level"))).mp.
2.2	b	((congruen* ADJ3 fram*) OR (cultur* adj2 appeal*) OR (cultur* ADJ2 messag*) OR (frame* ADJ3 print) OR (gain ADJ3 fram*) OR (individuali* ADJ3 advert*) OR (individuali* ADJ3 appeal*) OR (individuali* ADJ3 messag*) OR (loss ADJ3 fram*) OR (motiv* ADJ2 tailor*) OR (motiv* ADJ3 congruen*) OR (negative* ADJ1 fram*) OR (negative* ADJ3 appeal*) OR (personali* ADJ3 advert*) OR (personali* ADJ3 appeal*) OR (positive* ADJ3 appeal*) OR (positive* ADJ1 fram*) OR (tailor* ADJ3 print) OR (target* ADJ3 print) OR (type* ADJ3 appeal*)).mp.
2.3	c	(("attitud* function*") OR ("computer tailor*") OR

		("congruency hypothesis") OR ("cultural tailoring") OR ("tailored feedback") OR (gain-frame*) OR (loss-frame*) OR (message fit)).mp.
2.4	d	((match* ADJ3 (frame OR framing OR frames)) OR (match* AND (hedonic AND utilitarian)) OR (match* AND (social-adjustive AND value-expressive)) OR ((messag* OR appeal*) AND (congru*) AND ("self-construal")) OR ((messag* OR appeal*) AND (congru*) AND (individual* AND collectiv*)) OR ((messag* OR appeal*) AND (congru*) AND (interdependen* AND independen*)) OR ((messag* OR appeal*) AND (congru*) AND (self-monitor*)) OR ((messag* OR appeal*) AND (fit) AND ("self-construal")) OR ((messag* OR appeal*) AND (match*) AND (individual* AND collectiv*)) OR ((messag* OR appeal*) AND (match*) AND (interdependen* AND independen*)) OR ((messag* OR appeal*) AND (match*) AND (self-monitor*)) OR ((messag* OR appeal*) AND (tailor*) AND (individual* AND collectiv*)) OR ((messag* OR appeal*) AND (tailor*) AND (interdependen* AND independen*)) OR ((messag* OR appeal*) AND (tailor*) AND (self-monitor*)) OR (tailor* AND ("transtheoretical model") AND (appeal* OR messag* OR advert*))).mp.
3	**Limits**	
3.1		NOT (Autobiography OR Advertisements OR Almanacs OR Animation OR Annual Reports OR Biography OR Comment OR Congresses OR "Consensus Development Conference" OR Dictionary OR Editorial OR Eulogies OR "Government Publications" OR Guideline OR Interview OR "Introductory Journal Article" OR Lectures OR Letter OR News OR "Newspaper Article" OR "Patient Education Handout" OR "Practice Guideline" OR "Published Erratum" OR "Retracted Publication").pt
3.2		and English.lg.

[a]For Labels: a = 2 terms combined with an "AND" operator; b = 2 terms combined with an adjacency operator; c = exact expressions (allowing wildcard); d = more complex combination of 3 or more terms.

Table S4. Electronic Search Strategy for Use with *Scopus*

Steps	Label[a]	Search String
1	**Theoretically Preferred terms**	
1.1	a	TITLE-ABS-KEY ((congruen* AND advert*) OR (congruen* AND messag*) OR (mismatch* AND advert*))
1.2	b	TITLE-ABS-KEY ((congruen* W/3 appeal*) OR (frame* W/1 appeal*) OR (frame* W/3 advert*) OR (match* W/3 advert*) OR (match* W/3 appeal*) OR (match* W/3 messag*) OR (messag* W/0 fram*) OR (mismatch* W/3 appeal*) OR (mismatch* W/3 messag*) OR (tailor* W/3 advert*) OR (tailor* W/3 appeal*) OR (tailor* W/3 messag*))
1.3	c	TITLE-ABS-KEY (("functional match*") OR ("functionally matched") OR ("psychological* tailor*") OR ("psychological* target*"))
2	**Additional Specific terms**	
2.1	a	TITLE-ABS-KEY ((congru* AND ("construal level")) OR (congru* AND ("self-construal")) OR (congru* AND (self-monitor*)) OR (fit AND ("construal level")) OR (fit AND ("self-construal")) OR (match* AND ("construal level")) OR (match* AND ("self-construal")) OR (match* AND ("stage* of change")) OR (match* AND ("transtheoretical model")) OR (non-gain AND fram*) OR (non-loss AND fram*) OR (tailor* AND ("construal level")) OR (tailor* AND ("self-construal")))
2.2	b	TITLE-ABS-KEY ((congruen* W/3 fram*) OR (cultur* W/2 messag*) OR (individuali* W/3 advert*) OR (individuali* W/3 appeal*) OR (individuali* W/3 messag*) OR (motiv* W/1 tailor*) OR (negative* W/3 appeal*) OR (tailor* W/2 feedback*) OR (tailor* W/3 print) OR (type* W/3 appeal*))
2.3	c	TITLE-ABS-KEY (("attitud* function*") OR ("computer tailored") OR ("computer tailoring") OR ("cultural tailoring") OR ("gain fram*") OR ("gain-frame*") OR ("loss fram*") OR ("loss-frame*") OR ("message fit") OR ("negatively framed") OR

		("positively framed") OR ("self-congruence"))
2.4	d	TITLE-ABS-KEY ((congru* AND ("big 5" OR "big five") AND (appeal* OR messag*)) OR (congru* AND (hedonic AND utilitarian)) OR (congru* AND (liberal* AND conservative*)) OR (congru* AND (partisan AND nonpartisan)) OR (congru* AND ((selfish OR egoistic) AND (altruistic OR selfless))) OR (congru* AND (utilitarian AND knowledge)) OR (congru* AND (value-expressive AND knowledge)) OR (congru* AND (value-expressive AND utilitarian)) OR (match* AND ("big 5" OR "big five") AND (appeal* OR messag*)) OR (match* AND (hedonic AND utilitarian)) OR (match* AND (interdependen* AND independen*)) OR (match* AND (liberal* AND conservative*)) OR (match* AND ((selfish OR egoistic) AND (altruistic OR selfless))) OR (match* AND (social-adjustive AND knowledge)) OR (match* AND (social-adjustive AND object-appraisal)) OR (match* AND (social-adjustive AND utilitarian)) OR (match* AND (social-adjustive AND value-expressive)) OR (match* AND (value-expressive AND knowledge)) OR (match* AND (value-expressive AND utilitarian)) OR ((messag* OR appeal*) AND (congru*) AND (individual* AND collectiv*)) OR ((messag* OR appeal*) AND (fit) AND (individual* AND collectiv*)) OR ((messag* OR appeal*) AND (match*) AND (individual* AND collectiv*)) OR ((messag* OR appeal*) AND (match*) AND (self-monitor*)) OR ((messag* OR appeal*) AND (tailor*) AND (individual* AND collectiv*)) OR (mismatch* W/3 (frame OR framing OR frames)) OR (tailor* AND ("big 5" OR "big five") AND (appeal* OR messag*)) OR (tailor* AND (interdependen* AND independen*)) OR (tailor* AND ("stage* of change") AND (appeal* OR messag* OR advert*)))
3	**Limits**	
3.1	-	(LIMIT-TO (LANGUAGE , "English"))
3.2	-	NOT DOCTYPE(bk OR ch OR cr OR ed OR er OR le OR no OR pr OR re)

[a]For Labels: a = 2 terms combined with an "AND" operator; b = 2 terms combined with an adjacency operator; c = exact expressions (allowing wildcard); d = more complex combination of 3 or more terms.

Forward and Backward Citation Searches. To complement the electronic search, we made use of two types of citation searches: backward and forward citation searches. First, we identified 81 reviews to use for a backward citation search, including narrative reviews, systematic reviews, meta-analyses, chapters, dissertations, and editorials. These sources are indicated in the reference list within Table S5. In addition to the backward citation search, we also conducted a forward citation search using the same 81 sources. Additionally, a forward citation search was conducted to identify works that have cited a set of 33 influential and/or foundational empirical studies in the message matching literature. These articles are also identified in the reference list in Table S5. The citation searches were accomplished using *Web of Science*, via the University of Minnesota subscription, which had the following coverage:

> *Science Citation Index Expanded (SCI-EXPANDED)--1900-present; Social Sciences Citation Index (SSCI)--1900-present; Arts and Humanities Citation Index (A&HCI)--1975-present.; Book Citation (BKCI-S, BKCI-SSH)--2005-present.;Index Chemicus--1993-present;Inst*

Table S5. List of Sources used for Backward and Forward Citation Searches

Source	Empirical Study	Review
Aaker, J. L., & Lee, A. Y. (2001). "I" seek pleasures and "we" avoid pains: The role of self-regulatory goals in information processing and persuasion. *Journal of Consumer Research, 28*(1), 33-49.	x	
Abrams, D. B., Mills, S., & Bulger, D. (1999). Challenges and future directions for tailored communication research. *Annals of Behavioral Medicine, 21*(4), 299-306.		x
Alden, D. L., Friend, J., Schapira, M., & Stiggelbout, A. (2014). Cultural targeting and tailoring of shared decision making technology: a theoretical framework for improving the effectiveness of patient decision aids in culturally diverse groups. *Social Science & Medicine, 105*, 1-8.		x
Anderson, L. R. (2011). *Refining what works in tailoring: Comprehensive meta-analysis of computer-tailored interventions*. Dissertations and Master's Theses (Campus Access). Paper AAI3465908. Retrieved from https://digitalcommons.uri.edu/dissertations/AAI3465908		x
Apanovitch, A. M., McCarthy, D., & Salovey, P. (2003). Using message framing to motivate HIV testing among low-income, ethnic minority women. *Health Psychology,*	x	

22(1), 60.		
Bridle, C., Riemsma, R. P., Pattenden, J., Sowden, A. J., Mather, L., Watt, I. S., & Walker, A. (2005). Systematic review of the effectiveness of health behavior interventions based on the transtheoretical model. *Psychology & Health, 20*(3), 283-301.		x
Brug, J., Campbell, M., & van Assema, P. (1999). The application and impact of computer-generated personalized nutrition education: a review of the literature. *Patient Education and Counseling, 36*(2), 145-156.		x
Brug, J., Oenema, A., & Campbell, M. (2003). Past, present, and future of computer-tailored nutrition education. T*he American Journal of Clinical Nutrition, 77*(4), 1028S-1034S.		x
Bull, F. C., Kreuter, M. W., & Scharff, D. P. (1999). Effects of tailored, personalized and general health messages on physical activity. *Patient Educ Couns, 36*(2), 181-192.	x	
Campbell, M. K., DeVellis, B. M., Strecher, V. J., Ammerman, A. S., DeVellis, R. F., & Sandler, R. S. (1994). Improving dietary behavior: the effectiveness of tailored messages in primary care settings. *American Journal of Public Health, 84*(5), 783-787.	x	
Carpenter, C. J. (2012). A meta-analysis of the functional matching effect based on functional attitude theory. *Southern Communication Journal, 77*(5), 438-451.		x
Carpenter, C., Boster, F. J., & Andrews, K. R. (2013). *Functional attitude theory.* The Sage handbook of persuasion: Developments in theory and practice, 104-119.		x
Cesario, J., Corker, K. S., & Jelinek, S. (2013). A self-regulatory framework for message framing. *Journal of Experimental Social Psychology, 49*(2), 238-249.	x	
Clary, E. G., & Snyder, M. (1999). The Motivations to Volunteer: Theoretical and Practical Considerations. *Current Directions in Psychological Science, 8*(5), 156-159. doi:10.1111/1467-8721.00037	x	
Clary, E. G., Snyder, M., Ridge, R. D., Miene, P. K., & Haugen, J. A. (1994b). Matching Messages to Motives in Persuasion: A Functional Approach to Promoting Volunteerism. *Journal of Applied Social Psychology, 24*(13), 1129-1146. doi:10.1111/j.1559-1816.1994.tb01548.x	x	
Clary, E. G., Snyder, M., Ridge, R. D., Copeland, J., Stukas, A. A., Haugen, J., & Miene, P. (1998). Understanding and Assessing the Motivations of Volunteers: A Functional Approach. *J Pers Soc Psychol, 74*(6), 1516-1530	x	
Conway, N., Webster, C., Smith, B., & Wake, D. (2017). eHealth and the use of individually tailored information: a systematic review. *Health Informatics Journal, 23*(3), 218-233.		x
Covey, J. (2014). The role of dispositional factors in moderating message framing effects. *Health Psychology, 33*(1), 52.		x
DeBono, K. G. (1987). Investigating the social-adjustive and value-expressive functions of attitudes: Implications for persuasion processes. *J Pers Soc Psychol, 52*(2), 279.	x	
DeBono, K. G. (2000). Attitude functions and consumer psychology: Understanding perceptions of product quality. In G. R. Maio & J. M. Olson (Eds.), *Why we evaluate: Functions of attitudes* (1 ed., pp. 195-221). New York: Psychology Press.		x
Detweiler, J. B., Bedell, B. T., Salovey, P., Pronin, E., & Rothman, A. J. (1999). Message framing and sunscreen use: gain-framed messages motivate beach-goers. *Health Psychology, 18*(2), 189.	x	
Dijkstra, A. (2008). The psychology of tailoring-ingredients in computer-tailored persuasion. *Social and Personality Psychology Compass, 2*(2), 765-784.		x
Enwald, H. P. K., & Huotari, M. L. A. (2010). Preventing the obesity epidemic by second generation tailored health communication: an interdisciplinary review. *Journal of medical Internet research, 12*(2).		x
Finitsis, D. J., Pellowski, J. A., & Johnson, B. T. (2014). Text message intervention designs to promote adherence to antiretroviral therapy (ART): a meta-analysis of randomized controlled trials. *PloS one, 9*(2), e88166.		x
Gallagher, K. M., & Updegraff, J. A. (2012). Health message framing effects on attitudes, intentions, and behavior: a meta-analytic review. *Ann Behav Med, 43*(1), 101-116. doi:10.1007/s12160-011-9308-7		x

Ganzach, Y., & Karsahi, N. (1995). Message framing and buying behavior: A field experiment. *Journal of Business Research, 32*(1), 11-17.	x	
Gardner, W. L., Gabriel, S., & Lee, A. Y. (1999). "I" value freedom, but "we" value relationships: Self-construal priming mirrors cultural differences in judgment. *Psychol Sci, 10*(4), 321-326.	x	
Gerend, M. A., & Shepherd, J. E. (2007). Using message framing to promote acceptance of the human papillomavirus vaccine. *Health Psychology, 26*(6), 745.	x	
Gould, G. S., McEwen, A., Watters, T., Clough, A. R., & van der Zwan, R. (2013). Should anti-tobacco media messages be culturally targeted for Indigenous populations? A systematic review and narrative synthesis. *Tobacco Control, 22*(4), e7-e7.		x
Grewal, D., Motyka, S., Puccinelli, N. M., Roggeveen, A. L., Daryanto, A., de Ruyter, K., & Wetzels, M. (2011). Understanding how to achieve competitive advantage through regulatory fit: a meta-analysis. *Marketing Science Institute Research Report*, 10-117.		x
Han, S.-P., & Shavitt, S. (1994). Persuasion and culture: Advertising appeals in individualistic and collectivistic societies. *Journal of Experimental Social Psychology, 30*(4), 326-350.	x	
Hartmann-Boyce, J., Lancaster, T., & Stead, L. F. (2014). Print-based self-help interventions for smoking cessation. *Cochrane Database of Systematic Reviews*, (6).		x
Hawkins, R. P., Kreuter, M., Resnicow, K., Fishbein, M., & Dijkstra, A. (2008). Understanding tailoring in communicating about health. *Health Educ Res, 23*(3), 454-466.		x
Head, K. J., Noar, S. M., Iannarino, N. T., & Harrington, N. G. (2013). Efficacy of text messaging-based interventions for health promotion: a meta-analysis. *Social Science & Medicine, 97*, 41-48.		x
Heo, H. H., & Braun, K. L. (2014). Culturally tailored interventions of chronic disease targeting Korean Americans: a systematic review. *Ethnicity & Health, 19*(1), 64-85.		x
Herek, G. M. (1986). The Instrumentality of Attitudes: Toward a Neofunctional Theory. *Journal of Social Issues, 42*(2), 99-114.	x	
Herek, G. M. (1987). Can functions be measured? A new perspective on the functional approach to attitudes. *Social Psychology Quarterly*, 285-303.	x	
Hornikx, J. M. A., & O'Keefe, D. J. (2009a). *Adapting consumer advertising appeals to cultural values: A meta-analytic review of effects on persuasiveness and ad liking*. In C. S. Beck (Ed.), Communication Yearbook 33 (pp. 38-71). New York: Lawrence Erlbaum.		x
Hornikx, J., & O'Keefe, D. J. (2009b). Adapting consumer advertising appeals to cultural values a meta-analytic review of effects on persuasiveness and ad liking. *Annals of the International Communication Association, 33*(1), 39-71.		x
Huang, Y., & Shen, F. (2016). Effects of Cultural Tailoring on Persuasion in Cancer Communication: A Meta-Analysis. *Journal of Communication, 66*(4), 694-715.		x
Hutchison, A. J., Breckon, J. D., & Johnston, L. H. (2009). Physical activity behavior change interventions based on the transtheoretical model: a systematic review. *Health Education & Behavior, 36*(5), 829-845		x
Johar, J. S., & Sirgy, M. J. (1991). Value-expressive versus utilitarian advertising appeals: When and why to use which appeal. *Journal of Advertising, 20*(3), 23-33.	x	
Katz, D. (1960). The functional approach to the study of attitudes. *Public Opinion Quarterly*, 24(2), 163-204. doi:10.1086/266945	x	
Keller, P. A., & Lehmann, D. R. (2008). Designing effective health communications: a meta-analysis. *Journal of Public Policy & Marketing, 27*(2), 117-130.		x
Kidwell, B., Farmer, A., & Hardesty, D. M. (2013). Getting liberals and conservatives to go green: Political ideology and congruent appeals. *Journal of Consumer Research, 40*(2), 350-367.	x	
Krebs, P., Prochaska, J. O., & Rossi, J. S. (2010). A meta-analysis of computer-tailored interventions for health behavior change. *Prev Med, 51*(3-4), 214-221.		x
Kreuter, M. W., & Skinner, C. S. (2000). Tailoring: what's in a name? *Health Educ Res, 14*(1), 1-4. doi:https://doi.org/10.1093/her/15.1.1		x
Kreuter, M. W., Strecher, V. J., & Glassman, B. (1999). One size does not fit all: the case		x

for tailoring print materials. *Annals of Behavioral Medicine, 21*(4), 276-283.		
Kroeze, W., Werkman, A., & Brug, J. (2006). A systematic review of randomized trials on the effectiveness of computer-tailored education on physical activity and dietary behaviors. *Annals of Behavioral Medicine, 31*, 205–223. doi: 10.1207/s15324796abm3103_2		x
Lagisetty, P. A., Priyadarshini, S., Terrell, S., Hamati, M., Landgraf, J., Chopra, V., & Heisler, M. (2017). Culturally targeted strategies for diabetes prevention in minority population: a systematic review and framework. *The Diabetes Educator, 43*(1), 54-77.		x
Lancaster, T., & Stead, L. F. (2005). Self-help interventions for smoking cessation. *Cochrane Database Syst Rev, 3*(3).		x
Latimer, A. E., Brawley, L. R., & Bassett, R. L. (2010). A systematic review of three approaches for constructing physical activity messages: what messages work and what improvements are needed?. *International Journal of Behavioral Nutrition and Physical Activity, 7*(1), 36.		x
Lavine, H., & Snyder, M. (1996). Cognitive processing and the functional matching effect in persuasion: The mediating role of subjective perceptions of message quality. *Journal of Experimental Social Psychology, 32*(6), 580-604.	x	
Lavine, H., & Snyder, M. (2000). Cognitive processes and the functional matching effect in persuasion: Studies of personality and political behavior. In G. R. Maio & J. M. Olson (Eds.), *Why we evaluate: Functions of attitudes* (pp. 97-131). Mahwah. New Jersey: Lawrence erlbaum Associates.		x
Lee, A. Y., & Aaker, J. L. (2004). Bringing the frame into focus: the influence of regulatory fit on processing fluency and persuasion. *Journal of Personality and Social Psychology, 86*(2), 205.	x	
Levin, I. P., Schneider, S. L., & Gaeth, G. J. (1998). All frames are not created equal: A typology and critical analysis of framing effects. *Organizational Behavior and Human Decision Processes, 76*(2), 149-188.		x
Ludolph, R., & Schulz, P. J. (2015). Does regulatory fit lead to more effective health communication? A systematic review. *Soc Sci Med, 128*, 142-150.		x
Lustria, M. L., Cortese, J., Noar, S. M., & Glueckauf, R. L. (2009). Computer-tailored health interventions delivered over the Web: review and analysis of key components. *Patient Educ Couns, 74*(2), 156-173. doi:10.1016/j.pec.2008.08.023		x
Lustria, M. L. A., Noar, S. M., Cortese, J., Van Stee, S. K., Glueckauf, R. L., & Lee, J. (2013). A meta-analysis of web-delivered tailored health behavior change interventions. *J Health Commun, 18*(9), 1039-1069.		x
Maio, G. R., & Olson, J. M. (1994). Value—attitude-behaviour relations: The moderating role of attitude functions. *British Journal of Social Psychology, 33*(3), 301-312.	x	
Maio, G. R., & Olson, J. M. (1995). Relations between values, attitudes, and behavioral intentions: The moderating role of attitude function. *Journal of Experimental Social Psychology, 31*(3), 266-285.	x	
Mann, T., Sherman, D., & Updegraff, J. (2004). Dispositional motivations and message framing: a test of the congruency hypothesis in college students. *Health Psychology, 23*(3), 330.	x	
Marcus, B. H., Lewis, B. A., Williams, D. M., Dunsiger, S., Jakicic, J. M., Whiteley, J. A., … Parisi, A. F. (2007). A comparison of Internet and print-based physical activity interventions. *Archives of Internal Medicine, 167*, 944–949. doi: 10.1001/archinte. 167.9.944		x
Marshall, S. J., & Biddle, S. J. (2001). The transtheoretical model of behavior change: a meta-analysis of applications to physical activity and exercise. *Annals of Behavioral Medicine, 23*(4), 229-246.		x
Meyerowitz, B. E., & Chaiken, S. (1987). The effect of message framing on breast self-examination attitudes, intentions, and behavior. *J Pers Soc Psychol, 52*(3), 500.	x	
Motyka, S., Grewal, D., Puccinelli, N. M., Roggeveen, A. L., Avnet, T., Daryanto, A., . . . Wetzels, M. (2014). Regulatory fit: A meta-analytic synthesis. *Journal of Consumer Psychology, 24*(3), 394-410.		x
Neville, L. M., Milat, A. J., & O'Hara, B. (2009). Computer-tailored weight reduction		x

interventions targeting adults: A narrative systematic review. *Health Promotion Journal of Australia, 20*, 48–57.		
Neville, L. M., O'Hara, B., & Milat, A. J. (2009). Computer-tailored dietary behaviour change interventions: A systematic review. *Health Education Research, 24*, 699–720. doi: 10.1093/her/cyp006		x
Neville, L. M., O'Hara, B., & Milat, A. J. (2009). Computer-tailored physical activity behavior change interventions targeting adults: A systematic review. *International Journal of Behavioral Nutrition and Physical Activity, 6*, e30. doi: 10.1186/1479-5868-6-30		x
Noar, S. M., Benac, C. N., & Harris, M. S. (2007). Does tailoring matter? Meta-analytic review of tailored print health behavior change interventions. *Psychol Bull, 133*(4), 673-693. doi:10.1037/0033-2909.133.4.673		x
Noar, S. M., Black, H. G., & Pierce, L. B. (2009). Efficacy of computer technology-based HIV prevention interventions: a meta-analysis. *Aids, 23*(1), 107-115.		x
Noar, S. M., & Harrington, N. G. (2016). Tailored Communications for Health-Related Decision-Making and Behavior Change. In M. A. Diefenbach, S. Miller-Halegoua, & D. J. Bowen (Eds.), *Handbook of Health Decision Science* (pp. 251-263). New York, NY: Springer.		x
Noar, S. M., Harrington, N. G., & Aldrich, R. S. (2009). The role of message tailoring in the development of persuasive health communication messages. *Annals of the International Communication Association, 33*(1), 73-133.		x
Noar, S. M., Harrington, N. G., Van Stee, S. K., & Aldrich, R. S. (2011). Tailored health communication to change lifestyle behaviors. *American Journal of Lifestyle Medicine, 5*(2), 112-122.		x
Noar, S. M., Pierce, L. B., & Black, H. G. (2010). Can computer-mediated interventions change theoretical mediators of safer sex? A meta-analysis. *Human Communication Research, 36*(3), 261-297.		x
O'Keefe, D. J., & Jensen, J. D. (2006). The advantages of compliance or the disadvantages of noncompliance? A meta-analytic review of the relative persuasive effectiveness of gain-framed and loss-framed messages. *Annals of the International Communication Association, 30*(1), 1-43.		x
O'Keefe, D. J., & Jensen, J. D. (2007). The relative persuasiveness of gain-framed and loss-framed messages for encouraging disease prevention behaviors: a meta-analytic review. *J Health Commun, 12*(7), 623-644. doi:10.1080/10810730701615198		x
O'Keefe, D. J., & Jensen, J. D. (2008). Do loss-framed persuasive messages engender greater message processing than do gain-framed messages? A meta-analytic review. *Communication Studies, 59*(1), 51-67.		x
O'Keefe, D. J., & Jensen, J. D. (2009). The relative persuasiveness of gain-framed and loss-framed messages for encouraging disease detection behaviors: A meta-analytic review. *Journal of Communication, 59*(2), 296-316.		x
O'Keefe, D. J., & Jensen, J. D. (2011). The relative effectiveness of gain-framed and loss-framed persuasive appeals concerning obesity-related behaviors: Meta-analytic evidence and implications. In R. Batra, P. A. Keller, & V. J. Strecher (Eds.), *Leveraging consumer psychology for effective health communications: The obesity challenge* (pp. 171-185). New York: ME Sharpe.		x
O'Keefe, D. J., & Nan, X. (2012). The relative persuasiveness of gain-and loss-framed messages for promoting vaccination: A meta-analytic review. *Health communication, 27*(8), 776-783.		x
O'Keefe, D. J., & Wu, D. (2012). Gain-framed messages do not motivate sun protection: A meta-analytic review of randomized trials comparing gain-framed and loss-framed appeals for promoting skin cancer prevention. *International Journal of Environmental Research and Public health, 9*(6), 2121-2133.		x
Penţa, M. A., & Băban, A. (2018). Message Framing in Vaccine Communication: A Systematic Review of Published Literature. *Health Communication, 33*(3), 299-314.		x
Petty, R. E., & Wegener, D. T. (1998). Matching versus mismatching attitude functions: Implications for scrutiny of persuasive messages. *Personality and Social Psychology*	x	

Bulletin, 24(3), 227-240
Petty, R. E., Wheeler, S. C., & Bizer, G. Y. (2000). Attitude functions and persuasion: An elaboration likelihood approach to matched versus mismatched messages. In G. R. Maio & J. M. Olson (Eds.), *Why we evaluate: Functions of attitudes* (pp. 133-162). New York: Psychology Press. x
Pope, J. P., Pelletier, L., & Guertin, C. (2018). Starting Off on the Best Foot: A Review of Message Framing and Message Tailoring, and Recommendations for the Comprehensive Messaging Strategy for Sustained Behavior Change. *Health communication, 33*(9), 1068-1077. x
Portnoy, D. B., Scott-Sheldon, L. A., Johnson, B. T., & Carey, M. P. (2008). Computer-delivered interventions for health promotion and behavioral risk reduction: a meta-analysis of 75 randomized controlled trials, 1988–2007. *Preventive Medicine, 47*(1), 3-16. x
Rakowski, W. (1999). The potential variances of tailoring in health behavior interventions. *Annals of Behavioral Medicine, 21*(4), 284. x
Ratcliff, C. L., Kaphingst, K. A., & Jensen, J. D. (2018). When Personal Feels Invasive: Foreseeing Challenges in Precision Medicine Communication. *Journal of Health Communication, 23*(2), 144-152. x
Revere, D., & Dunbar, P. J. (2001). Review of computer-generated outpatient health behavior interventions: Clinical encounters "in absentia." *Journal of the American Medical Informatics Association, 8*, 62–79. doi: 10.1136/jamia.2001.0080062 x
Richards, K. C., Enderlin, C. A., Beck, C., McSweeney, J. C., Jones, T. C., & Roberson, P. K. (2007). Tailored biobehavioral interventions: a literature review and synthesis. *Research and Theory for Nursing Practice, 21*(4), 271. x
Rimer, B. K., & Glassman, B. (1998). Tailoring communications for primary care settings. *Methods of Information in Medicine, 37*, 171–177. x
Rimer, B. K., & Kreuter, M. W. (2006). Advancing tailored health communication: A persuasion and message effects perspective. *Journal of Communication, 56*(s1). x
Rothman, A. J., Bartels, R. D., Wlaschin, J., & Salovey, P. (2006). The Strategic Use of Gain- and Loss-Framed Messages to Promote Healthy Behavior: How Theory Can Inform Practice. *Journal of Communication, 56*(s1), S202-S220. doi:10.1111/j.1460-2466.2006.00290.x x
Rothman, A. J., Martino, S. C., Bedell, B. T., Detweiler, J. B., & Salovey, P. (1999). The systematic influence of gain-and loss-framed messages on interest in and use of different types of health behavior. *Personality and Social Psychology Bulletin, 25*(11), 1355-1369. x
Rothman, A. J., & Salovey, P. (1997). Shaping Perceptions to Motivate Healthy Behavior: The Role of Message Framing. *Psychol Bull, 121*(1), 3-19. x
Rothman, A. J., Salovey, P., Antone, C., Keough, K., & Martin, C. D. (1993). The Influences of Message Framing on Intentions to Perform Health Behaviors. *Journal of Experimental Social Psychology, 29*(5), 408-433. doi:10.1006/jesp.1993.1019 x
Rothman, A. J., & Updegraff, J. A. (2010). Specifying When and How Gain- and Loss-Framed Messages Motivate Healthy Behavior: An Integrated Approach. In G. Keren (Ed.), *Perspectives on Framing*. London: Psychology Press / Taylor & Francis. x
Shavitt, S. (1990). The role of attitude objects in attitude functions. *Journal of Experimental Social Psychology, 26*(2), 124-148. x
Shavitt, S., & Nelson, M. R. (2002). The role of attitude functions in persuasion and social judgment. The persuasion handbook: Developments in theory and practice, 137-153. x
Schmid, K. L., Rivers, S. E., Latimer, A. E., & Salovey, P. (2008). Targeting or tailoring? Maximizing resources to create effective health communications. *Marketing Health Services, 28*(1), 32. x
Short, C. E., James, E. L., Plotnikoff, R. C., & Girgis, A. (2011). Efficacy of tailored-print interventions to promote physical activity: a systematic review of randomised trials. Int*ernational Journal of Behavioral Nutrition and Physical Activity, 8*(1), 113. x
Skinner, C. S., Campbell, M. K., Rimer, B. K., Curry, S., & Prochaska, J. O. (1999). How x

effective is tailored print communication? *Annals of Behavioral Medicine, 21*(4), 290-298		
Skinner, C. S., Strecher, V. J., & Hospers, H. (1994). Physicians' recommendations for mammography: do tailored messages make a difference? *American Journal of Public Health, 84*(1), 43-49.	x	
Snyder, M., & DeBono, K. G. (1985). Appeals to image and claims about quality: Understanding the psychology of advertising. *J Pers Soc Psychol, 49*(3), 586.	x	
Sohl, S. J., & Moyer, A. (2007). Tailored interventions to promote mammography screening: a meta-analytic review. *Prev Med, 45*(4), 252-261.		x
Spencer, L., Adams, T. B., Malone, S., Roy, L., & Yost, E. (2006). Applying the transtheoretical model to exercise: a systematic and comprehensive review of the literature. *Health Promot Pract, 7*(4), 428-443.		x
Strecher, V. J., McClure, J. B., Alexander, G. L., Chakraborty, B., Nair, V. N., Konkel, J. M., . . . Wiese, C. J. (2008). Web-based smoking-cessation programs: results of a randomized trial. *Am J Prev Med, 34*(5), 373-381.	x	
Updegraff, J. A., & Rothman, A. J. (2013). Health Message Framing: Moderators, Mediators, and Mysteries. *Social and Personality Psychology Compass, 7*(9), 668-679. doi:10.1111/spc3.12056		x
Van't Riet, J., Cox, A. D., Cox, D., Zimet, G. D., De Bruijn, G.-J., Van den Putte, B., . . . Ruiter, R. A. (2016). Does perceived risk influence the effects of message framing? Revisiting the link between prospect theory and message framing. *Health Psychol Rev, 10*(4), 447-459.		x
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Section 3. Sensitivity Analyses

Sensitivity analyses are the primary method we use to evaluate the presence and operation of bias. Sensitivity analyses involved evaluating the moderating influence of various variables that are suspected to have a potential biasing effect on results.

Table S6 provides a summary of the variables used to conduct sensitivity analyses that could be mapped to differing levels of bias. The Table includes a description of each variable, the percentage with which each coding response for that variable was selected, and the corresponding level of bias (high, unclear [i.e., treated as moderate], and low).

In addition, we also computed sensitivity analyses to compare effect sizes extracted from peer-reviewed publications (i.e., journal articles; 81.5% of effects) and grey literature (i.e., theses and dissertations; 18.5% of effects).

Moderation results are provided separately for each variable to allow inferences to be draw for each variable. Moderation effects are evaluated using the following strategies:

1. For **categorical variables** (variables 1-8 in Table S6, and status as peer-reviewed or not).
    a. Subgroup analyses are performed by running a separate three-level meta-analysis for each level of the moderating variable
    b. The presence/absence of moderation was evaluated using meta-regression. Significant differences are indicated in the final column.
2. For **continuous variables** (variables 9 & 10 in Table S6):
    a. Evaluated these using a single model per each effect/outcome types.
    b. Entered the moderator into the multi-level meta-analytic model as a predictor.
    c. The results are the estimate corresponding to the effects of the moderator

Table S6. List of Variables used For Sensitivity Analyses (Including Descriptions and Frequencies).

Variable	Description	Levels of Bias (and % response selected)		
		Low	**Unclear**	**High**
1. Message fully available	Are the messages/interventions fully available?	Yes (51.5)	No[a] (48.5)	-
2. Covariates included	Were covariates included in the analyses?	Yes (83.2)	Unclear (3.7)	No (13.1)
3. Manipulation confounded	Do messages/interventions differ only in degree of matching? Or is manipulation confounded?	Purely matching (66.9)	Unclear (7.5)	More than matching (25.5)
4. Selection Bias	Is the randomization process explicitly described? Is it truly random?	Low (6.0)	Unclear (90.5)	High (3.6)
5. Performance bias	Blinding/masking to prevent influence on true outcomes (independent of assessment)	Low (38.8)	Unclear (57.8)	High (3.4)
6. Attrition bias	Drop-out rate (attrition) between assessment time and randomization (used 20% cutoff)	Low [< 20%] (88.9)	Unclear (2.4)	High [>20%] (8.7)
7. Reporting bias	Outcomes are reported for all effects of interest and all subgroups. Do not need to be reported in an extractable form (e.g., Means without SDs)	Low (91.0)	*[Unclear (0.2)]*[c]	High (8.8)
8. Extractable effects (% per study)[b]	Percent of effects we could extract for a given study (alternate measure of reporting bias)	100% (34.7)	80% to <100% (43.4)	< 80% (22.0)
9. Sample size (effect-level)	Sample size (effect-level)	Operationalized Continuously		
10. Sample size (study-level)	Sample size (study-level)	Operationalized Continuously		

[a]Marked under unclear rather than high, as most studies provide a sample of message/intervention components.
[b]Cutoff points were selected for theoretical reasons while ensuring enough observations per group. The variable was not treated continuously, as cutoffs represent qualitatively different patterns of studies. A rate of 100% means all effects of interest could be extracted. A rate of 80% could represent a certain degree of selective reporting; however, for many studies which evaluated interaction effect, this emerges when interaction effects could not be extracted but all pairwise comparisons could. This commonly emerges when all data for each subgroup is presented (i.e., complete reporting), but the F-tests for interactions cannot be extracted because one factor has three levels (e.g., there may be a control group, leading to a 2x3 design, and changing the nature of the F-statistic). About 43.4% of effect sizes are in studies that report 80% to <100% of effects. The last category (<80%) predominantly indicates that at least some degree of selective reporting of necessary components to extract effects (e.g., effect size, standard deviations, test statistics).
[c]This level was omitted from analyses due to the very low level of representation.

Table S7. Sensitivity Analyses - Message fully available

Effect & Outcome Type	Bias Level	Meta-Analytic Estimate				Synthesis Across			Heterogeneity				Mod Test (*p*)
		r	95% *CI*		Sig. (*p*)	Effect #	Study #	Mean Study *N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*		
			Low	High							Low	High	
Main Effects													
Attitudes	Low	.228	.185	.269	**<.001**	1074	188	247.3	53.4 / 39.5	.297 / .256	-.492	.763	.301
	Unclear	.186	.149	.222	**<.001**	922	180	191.2	49.4 / 38.2	.237 / .209	-.408	.669	
Intentions	Low	.191	.157	.224	**<.001**	1143	210	254.1	53.1 / 37.5	.247 / .208	-.415	.679	.756
	Unclear	.190	.157	.222	**<.001**	975	161	224.0	34.9 / 49.0	.161 / .191	-.291	.594	
Self-Report Behavior	Low	.085	-.102	.266	.364	47	7	371.1	48.5 / 38.1	.233 / .206	-.513	.628	.334
	Unclear	.071	.049	.094	**<.001**	258	49	894.5	90.3 / 1.8	.152 / .021	-.227	.358	
Observed Behavior	Low	.197	.095	.296	**<.001**	133	25	1024.4	7.7 / 87.5	.074 / .250	-.316	.621	.450
	Unclear	.170	.122	.217	**<.001**	195	37	295.4	66.7 / 14.1	.199 / .091	-.257	.541	
Interaction Effects													
Attitudes	Low	.265	.210	.319	**<.001**	134	101	209.9	16.6 / 76.8	.121 / .261	-.291	.688	.092
	Unclear	.197	.151	.241	**<.001**	89	79	169.5	10.3 / 72.1	.066 / .175	-.173	.518	
Intentions	Low	.229	.188	.270	**<.001**	161	122	203.8	29.6 / 60.5	.134 / .191	-.226	.602	.864
	Unclear	.234	.192	.276	**<.001**	95	77	169.5	7.0 / 76.0	.052 / .169	-.115	.532	
Self-Report Behavior	Low	-	-	-	-	-	-	-	-	-	-	-	-
	Unclear	-	-	-	-	-	-	-	-	-	-	-	
Observed Behavior	Low	.159	-.122	.417	.232	10	9	118.7	0.0 / 91.6	.000 / .360	-.605	.771	.282
	Unclear	.314	.203	.416	**<.001**	8	6	85.7	0.0 / 0.0	.000 / .000	.203	.416	
Total Effects													
	Low	.217	.191	.244	**<.001**	2706	349	290.3	48.7 / 43.8	.244 / .231	-.413	.707	.115
	Unclear	.178	.156	.199	**<.001**	2545	358	297.9	47.2 / 42.5	.190 / .181	-.323	.601	

r = meta-analytic estimate expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; Mean Study N = average sample size of each study used; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. The column "Mod Test (*p*)" provide *p*-values of meta-regressions comparing the two levels of the moderator variable.

Table S8. Sensitivity Analyses – Covariates Included

Effect & Outcome Type	Bias Level	Meta-Analytic Estimate				Synthesis Across			Heterogeneity				Moderation Tests (*p*)		
		r	95% *CI*		Sig. (*p*)	Effect #	Study #	Mean Study *N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*				
			Low	High							Low	High	L-U	L-H	U-H
Main Effects															
Attitudes	Low	.213	.182	.242	**<.001**	1716	304	220.1	56.1 / 34.8	.285 / .224	-.459	.730			
	Unclear	.130	.074	.185	**<.001**	70	13	276.7	43.0 / 22.6	.096 / .069	-.111	.356	.550	.834	.589
	High	.201	.112	.287	**<.001**	210	57	197.3	29.2 / 62.5	.211 / .308	-.491	.737			
Intentions	Low	.198	.172	.224	**<.001**	1794	316	245.2	48.6 / 40.7	.227 / .207	-.382	.666			
	Unclear	.109	.020	.196	**.017**	71	18	256.6	54.8 / 31.5	.185 / .140	-.347	.523	.163	.534	.222
	High	.160	.113	.206	**<.001**	253	39	215.4	6.1 / 52.3	.044 / .128	-.109	.407			
Self-Report	Low	.074	.038	.111	**<.001**	242	46	763.0	80.3 / 13.2	.187 / .076	-.313	.441			
Behavior	Unclear	-	-	-	-	-	-	-	-	-	-	-	-	.842	-
	High	.077	.046	.108	**<.001**	57	9	1032.2	88.3 / .0	.098 / .000	-.122	.270			
Observed	Low	.191	.138	.244	**<.001**	287	52	614.8	34.4 / 55.6	.136 / .173	-.239	.559			
Behavior	Unclear	-	-	-	-	-	-	-	-	-	-	-	-	.126	-
	High	.078	-.075	.228	.307	39	9	483.0	34.8 / 51.0	.157 / .190	-.417	.538			
Interaction Effects															
Attitudes	Low	.263	.223	.302	**<.001**	135	112	165.5	39.1 / 46.2	.143 / .155	-.149	.597			
	Unclear	.189	.117	.259	**<.001**	17	12	324.8	51.7 / 24.5	.094 / .065	-.061	.417	.279	.068	.072
	High	.187	.101	.270	**<.001**	71	59	224.4	3.2 / 91.9	.060 / .323	-.440	.692			
Intentions	Low	.247	.219	.275	**<.001**	176	141	171.5	23.4 / 55	.087 / .133	-.062	.513			
	Unclear	.181	.081	.278	**.001**	27	16	278.8	32.2 / 58.3	.119 / .160	-.235	.542	.154	.491	.790
	High	.212	.117	.304	**<.001**	53	47	216.7	.0 / 95.3	.000 / .325	-.418	.704			
Self-Report	Low	-	-	-	-	-	-	-	-	-	-	-			
Behavior	Unclear	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	High	-	-	-	-	-	-	-	-	-	-	-			
Observed	Low	.280	.108	.435	**.005**	12	9	100.3	.0 / 70.0	.000 / .210	-.205	.654			
Behavior	Unclear	-	-	-	-	-	-	-	-	-	-	-	-	.469	-
	High	.148	-.352	.582	.468	5	5	112.2	46.9 / 46.9	.283 / .283	-.792	.880			
Total Effects															
	Low	.203	.184	.222	**<.001**	4367	577	293.7	52.6 / 38.8	.237 / .203	-.386	.674			
	Unclear	.160	.106	.213	**<.001**	194	36	288.1	37.8 / 46.4	.124 / .137	-.205	.486	.554	.726	.686
	High	.180	.134	.227	**<.001**	690	152	283.3	15.3 / 78.4	.124 / .281	-.399	.657			

r = meta-analytic estimate expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; Mean Study N = average sample size of each study used; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. The columns on moderation tests provide *p*-values of meta-regressions comparing the low vs. unclear (L-U), low vs. high (L-H) and unclear vs. high (U-H) bias subgroups.

Table S9. Sensitivity Analyses – Manipulation Confounded

Effect & Outcome Type	Bias Level	Meta-Analytic Estimate				Synthesis Across			Heterogeneity				Moderation Tests (*p*)		
		r	95% *CI*		Sig. (*p*)	Effect #	Study #	Mean Study *N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*				
			Low	High							Low	High	L-U	L-H	U-H
Main Effects															
Attitudes	Low	.211	.178	.244	**<.001**	1435	269	220.1	55.0 / 36.1	.287 / .233	-.471	.735			
	Unclear	.119	.050	.188	**.001**	145	37	216.5	80.4 / 9.1	.308 / .103	-.482	.644	**.050**	.467	**.044**
	High	.234	.163	.302	**<.001**	416	65	223.4	33.9 / 57.3	.209 / .272	-.413	.724			
Intentions	Low	.194	.166	.222	**<.001**	1498	269	235.4	48.6 / 39.9	.222 / .201	-.373	.656			
	Unclear	.130	.066	.193	**<.001**	145	34	248.8	64.6 / 21.6	.223 / .129	-.364	.567	.164	.200	.192
	High	.195	.140	.249	**<.001**	475	72	265.3	35.2 / 52.8	.177 / .217	-.342	.636			
Self-Report	Low	.081	-.039	.198	.180	53	12	334.2	43.4 / 40.1	.171 / .165	-.389	.517			
Behavior	Unclear	.155	.045	.260	**.007**	43	10	528.7	94.5 / 0.0	.339 / .000	-.491	.691	.655	.372	**.011**
	High	.061	.038	.084	**<.001**	209	34	1092.1	87.3 / 3.2	.127 / .024	-.192	.306			
Observed	Low	.196	.118	.272	**<.001**	128	35	826.1	17.9 / 77.2	.104 / .216	-.275	.591			
Behavior	Unclear	.215	.107	.317	**<.001**	38	6	256.2	56.5 / 14.0	.173 / .086	-.187	.555	.966	.643	.398
	High	.157	.093	.220	**<.001**	162	23	274.7	56.8 / 19.3	.188 / .110	-.270	.533			
Interaction Effects															
Attitudes	Low	.233	.188	.277	**<.001**	173	142	193.3	23.7 / 68.2	.138 / .234	-.291	.650			
	Unclear	.172	-.010	.343	.060	6	6	184.2	38.5 / 38.5	.106 / .106	-.249	.538	.647	.636	.355
	High	.252	.188	.314	**<.001**	44	35	203.2	1.4 / 82.0	.023 / .176	-.106	.553			
Intentions	Low	.235	.200	.270	**<.001**	209	159	187.7	21.5 / 67.6	.110 / .196	-.203	.594			
	Unclear	.199	.111	.284	**<.001**	15	14	152.4	72.7 / .0	.137 / .000	-.105	.470	.629	.874	.930
	High	.206	.131	.277	**<.001**	32	28	241.4	27.3 / 59.4	.104 / .153	-.175	.533			
Self-Report	Low	.140	-.140	.400	.255	6	4	100.0	.0 / 74.1	.000 / .189	-.398	.607			
Behavior	Unclear	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	High	-	-	-	-	-	-	-	-	-	-	-			
Observed	Low	.185	-.038	.391	.095	13	11	123.6	.0 / 88.8	.000 / .324	-.503	.730			
Behavior	Unclear	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	High	-	-	-	-	-	-	-	-	-	-	-			
Total Effects															
	Low	.207	.186	.228	**<.001**	3515	493	257.7	48.4 / 42.5	.230 / .215	-.387	.680			
	Unclear	.145	.105	.185	**<.001**	395	73	251.3	75.6 / 12.8	.260 / .107	-.386	.604	**.035**	.645	.167
	High	.190	.153	.227	**<.001**	1341	148	437.5	39.8 / 53.3	.184 / .213	-.347	.633			

r = meta-analytic estimate expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; Mean Study N = average sample size of each study used; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. The columns on moderation tests provide *p*-values of meta-regressions comparing the low vs. unclear (L-U), low vs. high (L-H) and unclear vs. high (U-H) bias subgroups.

Table S10. Sensitivity Analyses – Selection Bias

Effect & Outcome Type	Bias Level	Meta-Analytic Estimate				Synthesis Across			Heterogeneity				Moderation Tests (*p*)		
		r	95% *CI*		Sig. (*p*)	Effect #	Study #	Mean Study *N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*				
			Low	High							Low	High	L-U	L-H	U-H
Main Effects															
Attitudes	Low	.219	.075	.354	**.004**	80	14	472.5	9.2 / 82.1	.088 / .263	-.334	.661			
	Unclear	.206	.177	.234	**<.001**	1858	341	207.3	55.4 / 35.3	.281 / .224	-.460	.723	.815	.509	.148
	High	.332	-.037	.622	.076	58	9	250.8	9.3 / 87.9	.181 / .556	-.709	.918			
Intentions	Low	.022	-.051	.095	.552	94	17	515.4	64.1 / 21.9	.186 / .108	-.389	.426			
	Unclear	.201	.176	.226	**<.001**	1947	338	226.6	47.0 / 41.2	.215 / .202	-.359	.655	**.002**	**.047**	.404
	High	.148	.032	.259	**.013**	77	14	227.1	29.3 / 54.6	.138 / .189	-.320	.558			
Self-Report	Low	.052	.023	.082	**<.001**	108	19	932.1	69.6 / 15.3	.084 / .039	-.133	.235			
Behavior	Unclear	.113	.063	.163	**<.001**	170	30	670.7	84.8 / 9.5	.232 / .077	-.355	.536	.070	.400	.083
	High	.013	-.063	.089	.726	27	7	1228.1	67.2 / 19	.1 / .053	-.229	.253			
Observed	Low	.085	.029	.141	**.005**	22	10	403.7	21.7 / 43.5	.045 / .064	-.088	.252			
Behavior	Unclear	.207	.154	.260	**<.001**	298	50	271.2	36.9 / 39.9	.16 / .166	-.243	.584	.064	-	-
	High	-	-	-	-	-	-	-	-	-	-	-			
Interaction Effects															
Attitudes	Low	.199	.020	.365	**.037**	5	4	180.3	0 / 64.4	0 / .108	-.148	.502			
	Unclear	.241	.203	.279	**<.001**	210	172	188.0	21.6 / 69.3	.126 / .226	-.259	.640	.771	.291	.334
	High	.108	-.019	.231	.084	8	4	384.3	32.8 / 45.7	.068 / .08	-.169	.369			
Intentions	Low	.180	.056	.298	**.019**	4	4	191.5	5.7 / 5.7	.019 / .019	.029	.322			
	Unclear	.238	.208	.268	**<.001**	245	190	186.5	30.1 / 57.7	.124 / .171	-.173	.579	.662	.168	**.006**
	High	-.047	-.377	.294	.755	7	5	342.4	.0 / 96.5	.000 / .309	-.707	.657			
Self-Report	Low	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Behavior	Unclear	.227	.125	.324	**.002**	6	4	123.5	0 / 0	0 / 0	.125	.324			
	High	-	-	-	-	-	-	-	-	-	-	-			
Observed	Low	-	-	-	-	-	-	-	-	-	-	-			
Behavior	Unclear	.269	.129	.399	**.001**	17	14	110.2	0 / 79.2	0 / .232	-.232	.658	-	-	-
	High	-	-	-	-	-	-	-	-	-	-	-			
Total Effects															
	Low	.091	.045	.137	**<.001**	313	43	663.1	41.4 / 50.2	.123 / .135	-.264	.425			
	Unclear	.206	.188	.224	**<.001**	4751	635	231.4	50.6 / 39.2	.230 / .203	-.374	.670	**.001**	.200	.682
	High	.190	.030	.341	**.021**	187	24	1294.0	9.6 / 88.7	.129 / .391	-.562	.770			

r = meta-analytic estimate expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; Mean Study N = average sample size of each study used; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. The columns on moderation tests provide *p*-values of meta-regressions comparing the low vs. unclear (L-U), low vs. high (L-H) and unclear vs. high (U-H) bias subgroups.

Table S11. Sensitivity Analyses – Performance Bias

Effect & Outcome Type	Bias Level	Meta-Analytic Estimate				Synthesis Across			Heterogeneity				Moderation Tests (*p*)		
			95% *CI*								95% *PI*				
		r	Low	High	Sig. (*p*)	Effect #	Study #	Mean Study *N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	Low	High	L-U	L-H	U-H
Main Effects															
Attitudes	Low	.145	.117	.172	**<.001**	657	132	298.2	77.7 / 10.4	.247 / .090	-.356	.581			
	Unclear	.241	.200	.282	**<.001**	1312	228	171.4	47.0 / 44.2	.290 / .281	-.499	.778	**.004**	.750	.496
	High	.135	.018	.248	**.025**	27	4	276.0	.0 / 61.7	.000 / .105	-.109	.363			
Intentions	Low	.161	.132	.190	**<.001**	976	148	308.4	49.9 / 35.2	.179 / .150	-.289	.552			
	Unclear	.213	.177	.248	**<.001**	1074	207	192.9	48.7 / 40.5	.250 / .228	-.421	.707	**.046**	.700	.685
	High	.184	.091	.273	**<.001**	70	15	200.0	7.5 / 66.5	.056 / .167	-.177	.501			
Self-Report	Low	.058	-.008	.123	.084	100	22	916.6	72.4 / 21.4	.191 / .104	-.362	.458	.338	.896	.549
Behavior	Unclear	.096	.055	.136	**<.001**	151	26	694.9	89.1 / 5.5	.186 / .046	-.277	.444			
	High	.077	.050	.105	**<.001**	54	9	1036.9	76.5 / .0	.084 / .000	-.093	.243			
Observed	Low	.234	.151	.313	**<.001**	107	26	370.3	32.5 / 53.2	.150 / .192	-.247	.622			
Behavior	Unclear	.163	.104	.220	**<.001**	208	32	807.8	47.5 / 41.8	.147 / .137	-.232	.512	.097	**.014**	**.022**
	High	-.022	-.148	.105	.715	13	5	385.0	.0 / 68.0	.000 / .111	-.287	.247			
Interaction Effects															
Attitudes	Low	.164	.137	.192	**<.001**	77	64	257.0	45.6 / 17.3	.078 / .048	-.019	.337			
	Unclear	.276	.220	.329	**<.001**	140	113	153.7	16.5 / 75.5	.130 / .278	-.315	.712	**.013**	-	-
	High	-	-	-	-	-	-	-	-	-	-	-			
Intentions	Low	.202	.171	.233	**<.001**	111	90	224.6	28.6 / 50.5	.084 / .111	-.072	.448			
	Unclear	.254	.203	.304	**<.001**	138	103	158.9	23.9 / 66.6	.137 / .228	-.262	.658	.128	.600	.507
	High	.181	.011	.340	**.040**	7	6	221.3	.0 / 84.5	.000 / .154	-.228	.535			
Self-Report	Low	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Behavior	Unclear	-	-	-	-	-	-	-	-	-	-	-			
	High	-	-	-	-	-	-	-	-	-	-	-			
Observed	Low	.352	.228	.464	**<.001**	7	7	85.1	18.9 / 18.9	.063 / .063	.111	.553			
Behavior	Unclear	.107	-.184	.381	.433	11	8	123.3	.0 / 88.6	.000 / .354	-.626	.740	.090	-	-
	High	-	-	-	-	-	-	-	-	-	-	-			
Total Effects															
	Low	.164	.144	.183	**<.001**	2037	265	337.9	58.6 / 28.5	.191 / .133	-.284	.553			
	Unclear	.221	.195	.247	**<.001**	3037	414	257.8	47.3 / 45.4	.249 / .244	-.430	.721	**.005**	.441	.198
	High	.147	.089	.203	**<.001**	177	25	488.8	21.9 / 62.5	.078 / .131	-.157	.425			

r = meta-analytic estimate expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; Mean Study N = average sample size of each study used; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. The columns on moderation tests provide *p*-values of meta-regressions comparing the low vs. unclear (L-U), low vs. high (L-H) and unclear vs. high (U-H) bias subgroups.

Table S12. Sensitivity Analyses – Attrition Bias

Effect & Outcome Type	Bias Level	Meta-Analytic Estimate				Synthesis Across			Heterogeneity				Moderation Tests (*p*)		
		r	95% *CI*		Sig. (*p*)	Effect #	Study #	Mean Study *N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*				
			Low	High							Low	High	L-U	L-H	U-H
Main Effects															
Attitudes	Low	.213	.183	.243	**<.001**	1811	341	210.2	52.2 / 39.0	.278 / .240	-.466	.734			
	Unclear	.145	.093	.195	**<.001**	68	4	497.3	79 / .0	.189 / .000	-.231	.483	.655	.300	.644
	High	.126	.042	.207	**.003**	117	20	301.2	67.4 / 18.0	.242 / .125	-.397	.586			
Intentions	Low	.199	.174	.223	**<.001**	1977	350	227.3	47.5 / 40.9	.218 / .202	-.364	.655			
	Unclear	.096	.039	.153	**.002**	46	4	504.3	79.4 / .0	.172 / .000	-.250	.420	.413	**.008**	.246
	High	.034	-.038	.106	.345	95	16	452.9	24.8 / 44.4	.088 / .118	-.259	.323			
Self-Report	Low	.093	.034	.151	**.002**	122	24	600.4	69.8 / 25.0	.165 / .099	-.284	.444			
Behavior	Unclear	-	-	-	-	-	-	-	-	-	-	-	-	.312	-
	High	.067	.034	.099	**<.001**	179	35	980.1	86.0 / 5.4	.167 / .042	-.267	.387			
Observed	Low	.211	.153	.268	**<.001**	276	49	594.2	40.8 / 50.1	.161 / .179	-.258	.599			
Behavior	Unclear	-	-	-	-	-	-	-	-	-	-	-	-	**.021**	-
	High	.061	-.005	.127	.070	48	13	542.2	42.2 / 33.7	.102 / .091	-.218	.331			
Interaction Effects															
Attitudes	Low	.241	.202	.279	**<.001**	210	171	184.3	16.2 / 75.0	.109 / .235	-.260	.640			
	Unclear	-	-	-	-	-	-	-	-	-	-	-	-	.491	-
	High	.137	.000	.269	**.050**	10	7	306.6	80.4 / 0.0	.170 / .000	-.263	.497			
Intentions	Low	.232	.201	.262	**<.001**	247	192	182.6	28.4 / 59.9	.123 / .178	-.189	.581			
	Unclear	-	-	-	-	-	-	-	-	-	-	-	-	.925	-
	High	.242	.054	.413	**.022**	6	5	381.4	.0 / 79.9	.000 / .149	-.180	.589			
Self-Report	Low	.144	-.143	.409	.254	6	4	85.8	.0 / 74.6	.000 / .194	-.407	.618			
Behavior	Unclear	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	High	-	-	-	-	-	-	-	-	-	-	-			
Observed	Low	.230	.070	.379	**.008**	18	15	105.5	.0 / 84.1	.000 / .277	-.356	.687			
Behavior	Unclear	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	High	-	-	-	-	-	-	-	-	-	-	-			
Total Effects															
	Low	.208	.190	.227	**<.001**	4667	638	253.0	48.2 / 43.0	.227 / .215	-.381	.677			
	Unclear	.120	.087	.154	**<.001**	128	7	673.4	83.4 / .0	.170 / .000	-.214	.430	.272	< **.001**	.384
	High	.087	.057	.117	**<.001**	456	64	700.8	70.0 / 17.6	.165 / .083	-.271	.423			

r = meta-analytic estimate expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; Mean Study N = average sample size of each study used; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. The columns on moderation tests provide *p*-values of meta-regressions comparing the low vs. unclear (L-U), low vs. high (L-H) and unclear vs. high (U-H) bias subgroups.

Table S13. Sensitivity Analyses – Reporting Bias

Effect & Outcome Type	Bias Level	Meta-Analytic Estimate				Synthesis Across			Heterogeneity				Mod Test (*p*)
		r	95% *CI*		Sig. (*p*)	Effect #	Study #	Mean Study *N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*		
			Low	High							Low	High	
Main Effects													
Attitudes	Low	.211	.180	.241	**<.001**	1778	334	218.5	52.0 / 39.7	.278 / .243	-.471	.735	.648
	High	.180	.120	.239	**<.001**	217	30	219.3	50.1 / 21.8	.186 / .123	-.256	.555	
Intentions	Low	.196	.171	.221	**<.001**	1990	340	240.3	46.3 / 42.4	.215 / .206	-.368	.654	.160
	High	.124	.067	.180	**<.001**	124	27	228.2	43.1 / 28.2	.138 / .112	-.227	.447	
Self-Report Behavior	Low	.080	.041	.119	**<.001**	229	39	752.9	71.9 / 21.7	.157 / .086	-.269	.410	.635
	High	.065	.020	.110	**.005**	72	15	995.6	91.4 / .0	.176 / .000	-.280	.396	
Observed Behavior	Low	.199	.149	.248	**<.001**	310	57	582.0	35.8 / 53.6	.138 / .169	-.226	.560	**.006**
	High	-.043	-.138	.051	.347	18	5	672.8	77.7 / .0	.160 / .000	-.376	.299	
Interaction Effects													
Attitudes	Low	.233	.193	.273	**<.001**	201	163	190.2	20.5 / 70.9	.124 / .230	-.271	.638	.495
	High	.275	.186	.360	**<.001**	22	17	211.5	1.8 / 78.8	.025 / .167	-.080	.569	
Intentions	Low	.235	.204	.265	**<.001**	244	188	191.6	26.9 / 61.6	.119 / .180	-.185	.582	.288
	High	.156	.024	.283	.026	11	10	178.0	.0 / 81.3	.000 / .171	-.241	.509	
Self-Report Behavior	Low	.201	.106	.293	**.002**	7	5	106.6	.0 / .0	.000 / .000	.106	.293	-
	High	-	-	-	-	-	-	-	-	-	-	-	
Observed Behavior	Low	.230	.070	.379	**.008**	18	15	105.5	.0 / 84.1	.000 / .277	-.356	.687	-
	High	-	-	-	-	-	-	-	-	-	-	-	
Total Effects													
	Low	.204	.185	.223	**<.001**	4777	637	278.6	48.0 / 43.9	.225 / .215	-.383	.674	**.050**
	High	.138	.099	.175	**<.001**	464	60	435.2	53.7 / 28.8	.163 / .119	-.255	.491	

r = meta-analytic estimate expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; Mean Study N = average sample size of each study used; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. The column "Mod Test (*p*)" provide *p*-values of meta-regressions comparing the two levels of the moderator variable.

Table S14. Sensitivity Analyses – Extractable Effects

Effect & Outcome Type	Bias Level	Meta-Analytic Estimate				Synthesis Across			Heterogeneity				Moderation Tests (*p*)		
		r	95% *CI*		Sig. (*p*)	Effect #	Study #	Mean Study *N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*		L-U	L-H	U-H
			Low	High							Low	High			
Main Effects															
Attitudes	Low	.233	.187	.279	**<.001**	578	168	201.2	23.2 / 67.6	.172 / .294	-.407	.720	.298	.162	.718
	Unclear	.194	.141	.246	**<.001**	976	101	268.1	60.7 / 32.1	.334 / .243	-.549	.766			
	High	.178	.145	.210	**<.001**	442	95	196.5	63.1 / 16.0	.198 / .100	-.252	.549			
Intentions	Low	.198	.161	.234	**<.001**	779	172	213.5	10.7 / 74.6	.091 / .240	-.295	.607	.840	.318	.422
	Unclear	.193	.150	.237	**<.001**	952	103	313.3	60.8 / 30.5	.279 / .197	-.443	.700			
	High	.167	.131	.204	**<.001**	387	94	207.8	42.4 / 36.2	.155 / .143	-.242	.526			
Self-Report	Low	.088	.045	.131	**<.001**	161	32	994.3	77.0 / 18.4	.164 / .080	-.269	.424	.396	.663	.675
Behavior	Unclear	.051	-.015	.116	.128	72	8	970.0	63.3 / 18.9	.131 / .072	-.249	.342			
	High	.072	.019	.125	**.009**	70	15	447.7	87.7 / 1.0	.187 / .020	-.297	.423			
Observed	Low	.245	.151	.335	**<.001**	69	22	227.8	36.2 / 52.0	.160 / .192	-.253	.640	.507	**.007**	**.003**
Behavior	Unclear	.210	.164	.255	**<.001**	195	22	1070.1	67.6 / 18.4	.152 / .079	-.128	.504			
	High	.046	-.068	.158	.423	64	18	443.6	16.6 / 69.9	.105 / .216	-.420	.493			
Interaction Effects															
Attitudes	Low	.244	.178	.309	**<.001**	92	83	188.9	11.3 / 82.6	.106 / .288	-.348	.697	.769	.861	.885
	Unclear	.223	.150	.294	**<.001**	36	20	226.4	15.4 / 61.7	.068 / .136	-.091	.497			
	High	.232	.183	.280	**<.001**	95	77	186.9	35.1 / 52.4	.136 / .167	-.192	.583			
Intentions	Low	.246	.200	.292	**<.001**	126	103	187.8	5.1 / 85.5	.057 / .232	-.220	.621	**.036**	.888	**.014**
	Unclear	.139	.083	.194	**<.001**	40	19	226.8	78.6 / .0	.146 / .000	-.160	.415			
	High	.240	.196	.283	**<.001**	89	76	183.8	39.9 / 44.0	.129 / .135	-.128	.551			
Self-Report	Low	.227	.125	.324	**.002**	6	4	123.5	.0 / .0	.000 / .000	.125	.324	-	-	-
Behavior	Unclear	-	-	-	-	-	-	-	-	-	-	-			
	High	-	-	-	-	-	-	-	-	-	-	-			
Observed	Low	.320	.224	.409	**<.001**	8	8	101.9	13.0 / 13.0	.044 / .044	.150	.471	-	.056	-
Behavior	Unclear	-	-	-	-	-	-	-	-	-	-	-			
		-	-.714	.649	.832	4	4	122.0	47.4 / 47.4	.360 / .360	-.955	.943			
	High	.061													
Total Effects															
	Low	.211	.183	.238	**<.001**	1819	315	276.1	18.3 / 73.4	.123 / .246	-.316	.638	.487	.207	.497
	Unclear	.194	.159	.228	**<.001**	2277	174	402.8	60.9 / 32.0	.290 / .210	-.467	.716			
	High	.179	.155	.204	**<.001**	1152	211	232.2	48.8 / 34.8	.171 / .144	-.253	.552			

r = meta-analytic estimate expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; Mean Study N = average sample size of each study used; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. The columns on moderation tests provide *p*-values of meta-regressions comparing the low vs. unclear (L-U), low vs. high (L-H) and unclear vs. high (U-H) bias subgroups.

Table S15. Sensitivity Analyses – Sample size (Effects); unit is 100 participants

Effect & Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity		
	r	95% *CI*		Sig.	Effect	Study	Mean	I^2	95% *PI*	
		Low	High	(*p*)	#	#	Study *N*	(lv2 / lv3)	Low	High
Main Effects										
Attitude	-.023	-.057	.010	.176	1996	364	218.5	52.4 / 38.6	-.450	.729
Intention	-.064	-.093	-.035	**<.001**	2118	369	239.9	47.9 / 39.9	-.327	.657
Self-Report Behavior	-.002	-.006	.003	.522	305	56	829.1	78.7 / 14.5	-.264	.409
Observed Behavior	.000	-.004	.004	.876	328	62	589.3	34.6 / 55.5	-.263	.558
Interaction Effects										
Attitude	-.033	-.059	-.007	**.013**	223	180	192.2	19.8 / 70.8	-.226	.639
Intention	-.055	-.084	-.027	**<.001**	256	199	190.5	32.5 / 54.7	-.128	.590
Self-Report Behavior	.238	-.246	.627	.262	7	5	106.6	.0 / 60.6	-.471	.482
Observed Behavior	.095	-.312	.473	.635	18	15	105.5	.0 / 85.2	-.424	.692
Total Effect										
	-.003	-.007	.002	.223	5251	702	294.1	48.4 / 43.1	-.373	.663

r = meta-analytic estimate expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; Mean Study N = average sample size of each study used; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Moderation by sample size is captured through the significance value of the meta-analytic estimate (which represents the effect of sample size rather than the effect size at any given level of the moderator).

Table S16. Sensitivity Analyses – Sample size (Studies); unit is 100 participants

Effect & Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity		
	r	95% *CI*		Sig.	Effect	Study	Mean	I^2	95% *PI*	
		Low	High	(*p*)	#	#	Study *N*	(lv2 / lv3)	Low	High
Main Effects										
Attitude	-.017	-.030	-.004	**.012**	1996	364	218.5	52.6 / 38.4	-.437	.735
Intention	-.021	-.031	-.011	**<.001**	2118	369	239.9	47.6 / 40.3	-.325	.660
Self-Report Behavior	-.001	-.004	.002	.336	305	56	829.1	79.1 / 14.1	-.260	.412
Observed Behavior	.000	-.002	.002	.917	328	62	589.3	34.6 / 55.5	-.262	.559
Interaction Effects										
Attitude	-.032	-.053	-.011	**.003**	223	180	192.2	19.9 / 70.6	-.213	.643
Intention	-.040	-.062	-.018	**<.001**	256	199	190.5	30.9 / 56.5	-.131	.592
Self-Report Behavior	.174	-.242	.537	.333	7	5	106.6	.0 / 66.1	-.469	.522
Observed Behavior	.047	-.197	.286	.689	18	15	105.5	.0 / 85.2	-.422	.696
Total Effect										
	-.002	-.005	.000	**.036**	5251	702	294.1	48.5 / 43.0	-.370	.665

r = meta-analytic estimate expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; Mean Study N = average sample size of each study used; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Moderation by sample size is captured through the significance value of the meta-analytic estimate (which represents the effect of sample size rather than the effect size at any given level of the moderator).

Table S17. Sensitivity Analyses – Publication Type

Effect & Outcome Type	Bias Level	Meta-Analytic Estimate				Synthesis Across			Heterogeneity				Mod Test (*p*)
		r	95% *CI*		Sig. (*p*)	Effect #	Study #	Mean Study *N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*		
			Low	High							Low	High	
Main Effects													
Attitudes	Article	.220	.187	.252	**<.001**	1599	304	213.6	51.3 / 40.2	.285 / .253	-.481	.749	.082
	Thesis	.140	.101	.178	**<.001**	397	60	243.4	71.0 / 13.5	.218 / .095	-.317	.544	
Intentions	Article	.204	.177	.230	**<.001**	1656	308	237.3	45.5 / 42.7	.213 / .207	-.360	.658	**.015**
	Thesis	.123	.073	.172	**<.001**	462	61	252.9	55.7 / 31.1	.206 / .154	-.368	.560	
Self-Report Behavior	Article	.079	.047	.110	**<.001**	283	53	865.8	80.5 / 13.2	.168 / .068	-.272	.411	-
	Thesis	-	-	-	-	-	-	-	-	-	-	-	
Observed Behavior	Article	.171	.118	.223	**<.001**	309	57	628.2	33.7 / 56.6	.138 / .178	-.267	.550	.266
	Thesis	.269	.100	.422	**.004**	19	5	146.4	49.0 / 27.6	.188 / .141	-.243	.663	
Interaction Effects													
Attitudes	Article	.244	.200	.286	**<.001**	185	153	185.9	18.9 / 72.4	.124 / .242	-.282	.657	.495
	Thesis	.200	.146	.253	**<.001**	38	27	227.9	28.8 / 50.2	.078 / .103	-.066	.440	
Intentions	Article	.236	.204	.268	**<.001**	226	178	186.3	31.3 / 56.8	.131 / 0.177	-.192	.589	.322
	Thesis	.185	.113	.255	**<.001**	30	21	226.2	22.5 / 62.5	.078 / .131	-.132	.468	
Self-Report Behavior	Article	.201	.106	.293	**.002**	7	5	106.6	0.0 / 0.0	.000 / .000	.106	.293	-
	Thesis	-	-	-	-	-	-	-	-	-	-	-	
Observed Behavior	Article	.212	.025	.385	**.029**	16	13	93.7	0.0 / 85.6	.000 / .300	-.423	.707	-
	Thesis	-	-	-	-	-	-	-	-	-	-	-	
Total Effects													
	Article	.205	.186	.224	**<.001**	4281	610	303.9	48.0 / 44.2	.226 / .217	-.386	.677	.060
	Thesis	.152	.118	.185	**<.001**	970	92	229.5	59.1 / 26.8	.199 / .134	-.308	.554	

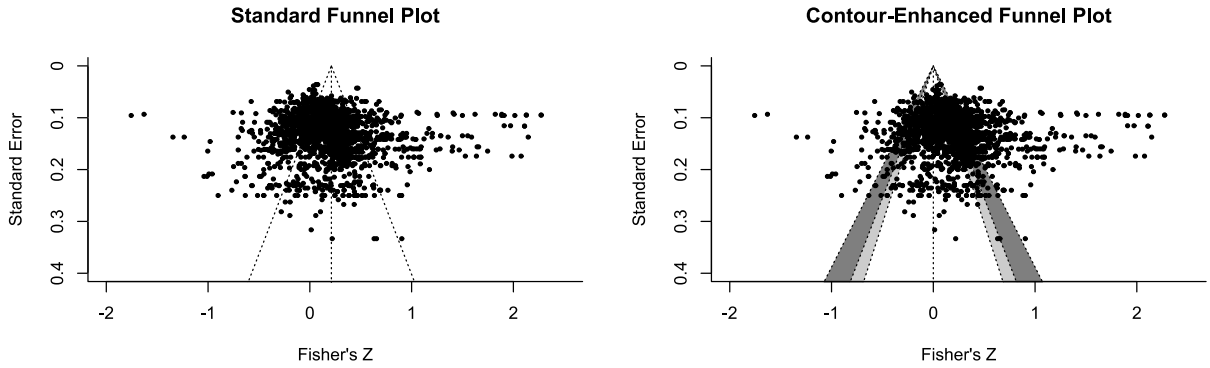
r = meta-analytic estimate expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; Mean Study N = average sample size of each study used; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. The column "Mod Test (*p*)" provide *p*-values of meta-regressions comparing the two levels of the moderator variable.

Section 4. Funnel Plots for Primary Findings.

In this section, we present funnel plots for each of the main estimates making up the primary analyses, broken down by outcome type and effect type. We do not present analyses for total estimates (aggregated across outcome/effect types) as the large number of data points make visual analyses harder to interpret.

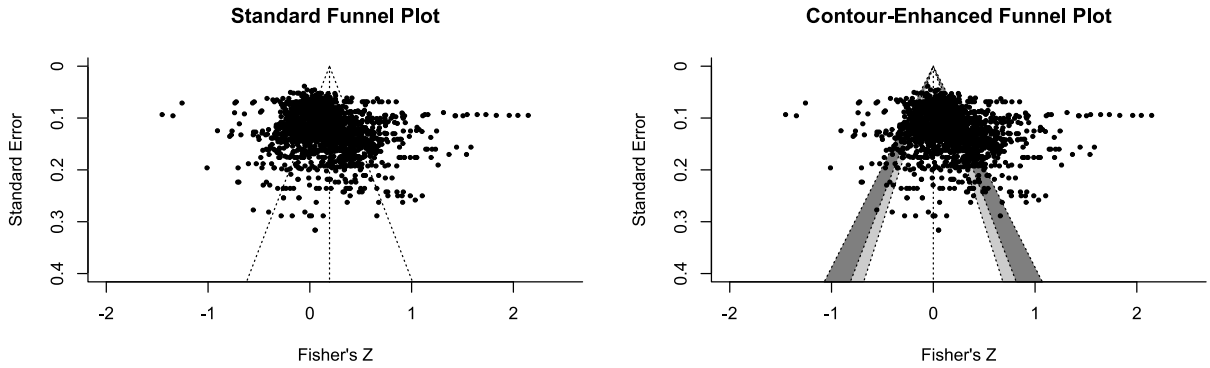
Standard funnel plots are centered on the estimated average effect size (by meta-analytic models) and provide a sense of the asymmetry of effects present in the literature. **Contour-enhanced funnel plots** are centered around zero and present colored regions, corresponding to different levels of significance for each effect. Effects within the central *white* region are non-significant. Effects within the *light gray* region correspond to *p*-values between .10 and .05 (i.e., just outside significance at 95%). Effects within the *dark gray* region correspond to *p*-values between .05 and .01. The white region outside the funnel captures significant effects at $p < .01$.

Figure S1. Funnel Plots: Main effects, Attitudes.



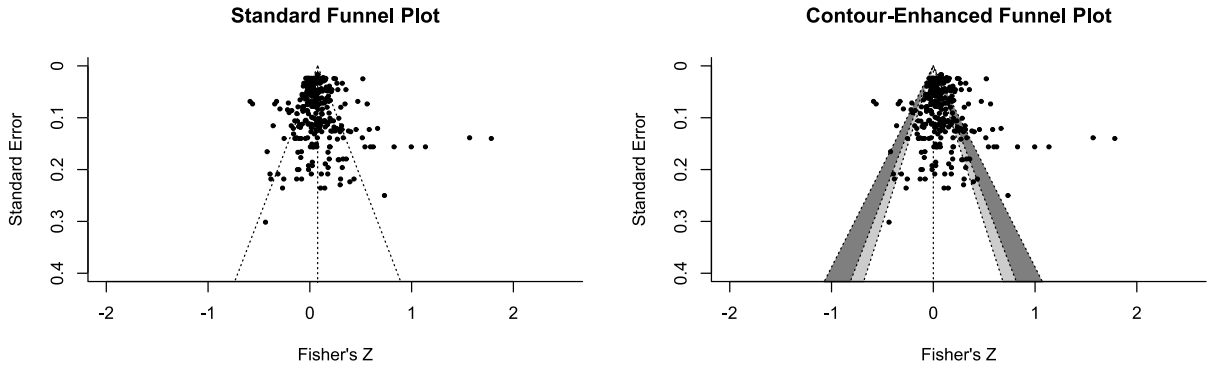
From the plot on the left, there does not appear to be any obvious skewness, with effects distributed on both sides of the funnel. From the plot on the right, there does not seem to be an obvious concentration of effects within the dark gray region relative to the other regions, but such a concentration could be obfuscated from by the large number of data points.

Figure S2. Funnel Plots: Main Effects, Intentions.



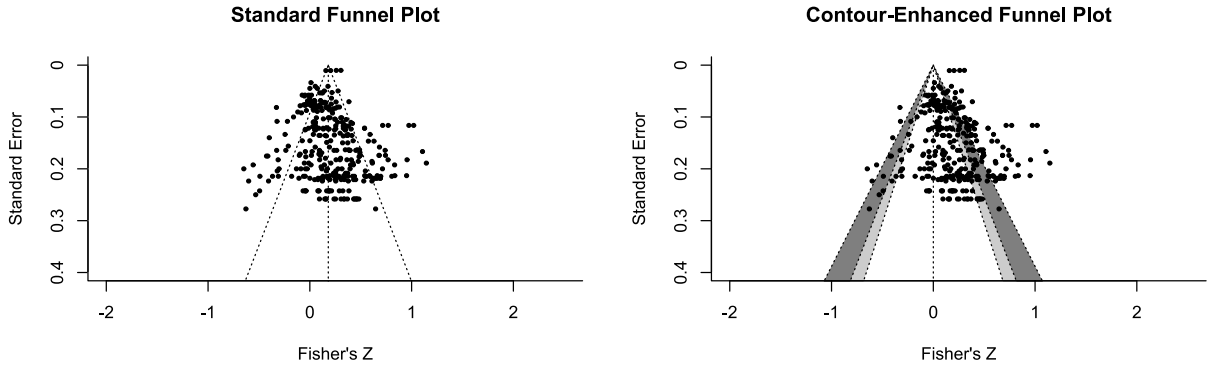
From the plot on the left, there does not appear to be any obvious skewness, with effects distributed on both sides of the funnel. From the plot on the right, there does not seem to be an obvious concentration of effects within the dark gray region relative to the other regions, but such a concentration could be obfuscated from by the large number of data points.

Figure S3. Funnel Plots: Main Effects, Self-Report Behavior.



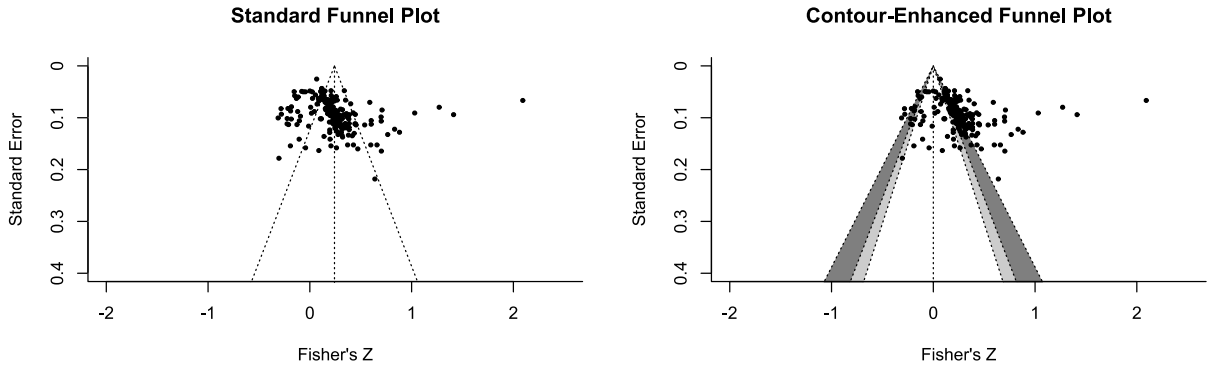
From the plot on the left, there does not appear to be any obvious skewness, with effects distributed on both sides of the funnel. From the plot on the right, there does not seem to be an obvious concentration of effects within the dark gray region relative to the other regions.

Figure S4. Funnel Plots: Main Effects, Observed Behavior.



From the plot on the left, there does not appear to be any obvious skewness, with effects distributed on both sides of the funnel. From the plot on the right, there does not seem to be an obvious concentration of effects within the dark gray region relative to the other regions, but such a concentration could be obfuscated from by the large number of data points.

Figure S5. Funnel Plots: Interactions, Attitudes.



From the pattern, the plots show a decent amount of spread. However, there is some skewness overall, and there looks to be a strong concentration of values in the dark gray region of the contour-enhanced plot. This may be a sign of bias.

Figure S6. Funnel Plots: Interactions, Intentions.

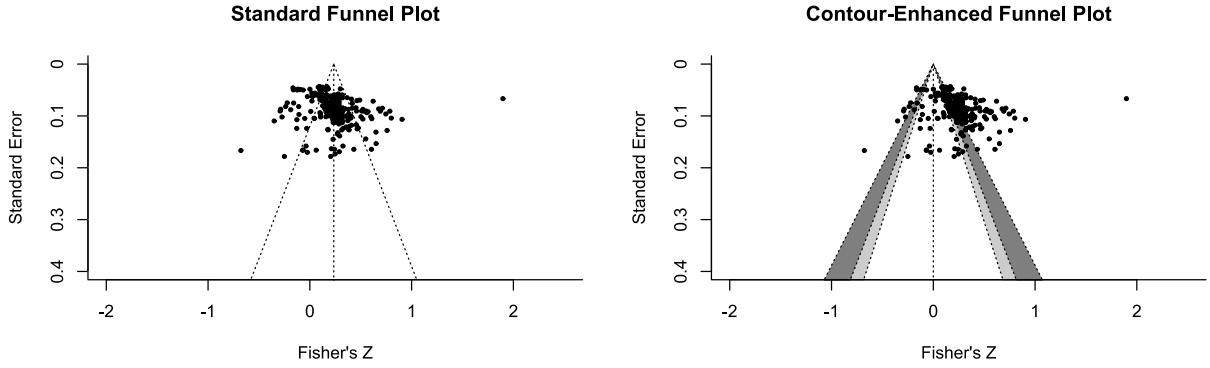
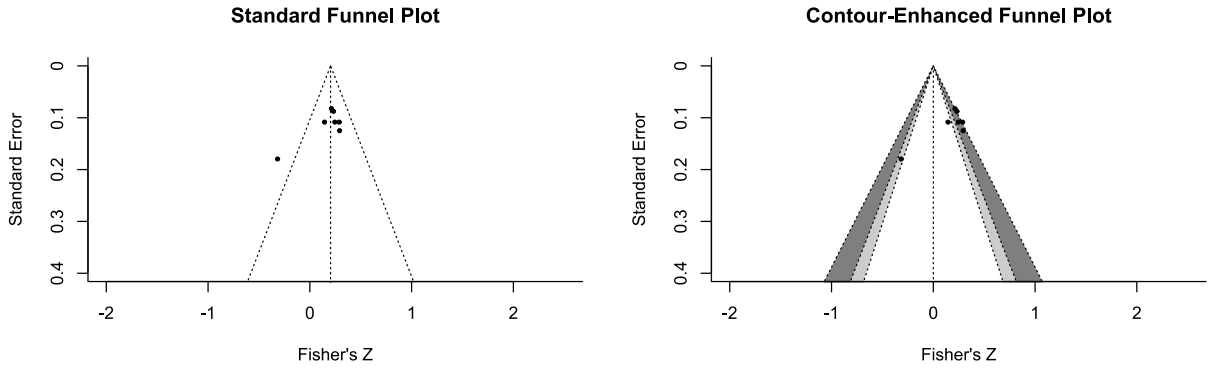
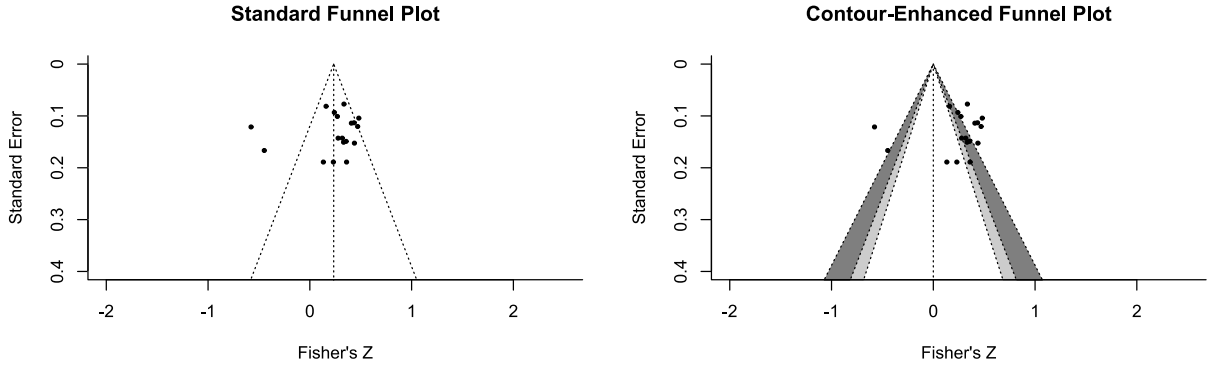


Figure S7. Funnel Plots: Interactions, Self-Report Behavior.



Very few observations present overall. However, these have a clear concentration in the dark gray region of the contour-enhanced plot to the right. This may be a sign of bias.

Figure S8. Funnel Plots: Interactions, Observed Behavior.



Very few observations present overall, making it difficult to judge skewness (if anything skewness suggests smaller studies present smaller, rather than larger effects). Additionally, there does not appear to be a particularly high concentration in the dark gray region of the contour-enhanced plot.

Section 5. Primary Moderation Effects.

1. The Four Traditions.

Table S18 provides fitted estimates from an overall meta-regression model that evaluated moderation across all levels of the moderator variable on the total estimates (i.e., aggregated across outcomes and effect sizes). For each level of the moderator variable, this table first lists the effect size for that level (expressed as *Z* and as *r*) and provides the corresponding significance level. Then, it provides tests of the degree to which each other level of the moderator variables significantly (or not) differ from it (with the difference expressed as *Z*).

Table S19 and S20 provide similar information as Table S18, but comparing studies that use message tailoring vs. context matching, and comparing studies that use vs. do not use message framing.

Table S21 provides results from subgroup analyses for each specific outcome and effect type (similarly to Figure 9 in the manuscript), for each level of this moderator variable.

Table S18. Moderation (Meta-Regression) Results Comparing Total Estimates Across Each of the Four Literatures

Moderator Level (compared to)	***Z***					***r***					
	Z	***SE***	***t***	**95% *CI***		***r***	**95% *CI***		**95% *PI***		**Sig.**
				Low	**High**		**Low**	**High**	**Low**	**High**	**(*p*)**
a. Tailoring	.170	.013	12.782	.144	.196	.168	.143	.193	-.402	.644	**<.001**
b. Tailoring/Framing	-.014	.028	-.504	-.069	.041						.614
c. Context	.052	.016	3.263	.021	.083						**.001**
d. Context/Framing	.056	.020	2.782	.016	.096						**.005**
b. Tailoring/Framing	.156	.026	5.915	.104	.207	.154	.104	.204	-.415	.637	**<.001**
a. Tailoring	.014	.028	.504	-.041	.069						.614
c. Context	.066	.029	2.308	.010	.122						**.021**
d. Context/Framing	.071	.028	2.506	.015	.126						**.012**
c. Context	.222	.013	17.650	.197	.246	.218	.194	.241	-.357	.673	**<.001**
a. Tailoring	-.052	.016	-3.263	-.082	-.021						**.001**
b. Tailoring/Framing	-.066	.029	-2.308	-.122	-.010						**.021**
d. Context/Framing	.005	.019	.238	-.034	.043						.812
d. Context/Framing	.226	.017	13.409	.193	.259	.222	.191	.254	-.354	.676	**<.001**
a. Tailoring	-.056	.020	-2.782	-.096	-.017						**.005**
b. Tailoring/Framing	-.071	.028	-2.506	-.126	-.015						**.012**
c. Context	-.005	.019	-.238	-.043	.034						.812

Notes. Z = meta-analytic estimate expressed as Fisher's *Z* (models were computed in Z, and all difference scores are expressed accordingly); *SE* = standard error; *t* = *t* statistic; *CI* = confidence interval; *r* = meta-analytic estimate expressed as a correlation (provided only for the estimates at each level of the moderator, not for the difference across moderators); PI = prediction interval; Sig (*p*) = statistical significance level expressed as *p*-value. The overall model aggregated 5160 effect sizes across 698 studies (excluded cases classified as multiple levels of the moderator), and the overall moderation effect was significant: $F(df1 = 3, df2 = 5156) = 5.431$, *p*-val = .001. The level 1 I^2 for the overall model was 91.6 (level 2 = 49.2; level 3 = 42.4). The within-study σ = .206, and the between study σ = .222.

Table S19. Moderation (Meta-Regression) Results Comparing Total Estimates Across Context Matching and Message Tailoring

Moderator Level (compared to)	***Z***					***r***					
	Z	***SE***	***t***	**95% *CI***		***r***	**95% *CI***		**95% *PI***		**Sig.**
				Low	**High**		**Low**	**High**	**Low**	**High**	**(*p*)**
a. Context Matching	.223	.011	20.780	.202	.244	.220	.199	.240	-.355	.674	**<.001**[a]
b. Message Tailoring	-.056	.014	-3.999	-.083	-.029	.166	.142	.189	-.403	.642	**<.001**[b]

[a]Significance level for the baseline group (context matching)

[b]Significance level evaluating moderation (context matching compared to message tailoring)

Notes. Z = meta-analytic estimate expressed as Fisher's *Z* (models were computed in Z, and all difference scores are expressed accordingly); *SE* = standard error; *t* = *t* statistic; *CI* = confidence interval; *r* = meta-analytic estimate expressed as a correlation (provided for the estimates at each level of the moderator, not for the difference across moderators); PI = prediction interval; Sig (*p*) = statistical significance level expressed as *p*-value. The overall model aggregated 5160 effect sizes across 698 studies (excluded cases classified as multiple levels of the moderator), and the overall moderation effect was significant: $F(df1 = 1, df2 = 5158) = 15.995$, *p*-val < .001. The level 1 I^2 for the overall model was 91.6 (level 2 = 49.3; level 3 = 42.3). The within-study $\sigma = .206$, and the between study $\sigma = .222$. Context matching analyses covered 2,968 effect sizes from 430 studies (total $N = 110{,}352$). Message tailoring analyses covered 2,192 effect sizes from 301 studies (total $N = 106{,}345$).

Table S20. Moderation (Meta-Regression) Results Comparing Total Estimates Across Studies Using (vs. Not Using) Message Framing

Moderator Level (compared to)	***Z***					***r***					
	Z	***SE***	***t***	**95% *CI***		***r***	**95% *CI***		**95% *PI***		**Sig.**
				Low	**High**		**Low**	**High**	**Low**	**High**	**(*p*)**
a. Not Framing	.210	.016	13.578	.180	.241	.207	.178	.236	-.369	.668	**<.001** [a]
b. Message Framing	-.012	.017	-.738	-.046	.021	.195	.176	.214	-.379	.661	.461 [b]

[a]Significance level for the baseline group (message framing)

[b]Significance level evaluating moderation (message framing compared to not message framing)

Notes. Z = meta-analytic estimate expressed as Fisher's *Z* (models were computed in Z, and all difference scores are expressed accordingly); *SE* = standard error; *t* = *t* statistic; *CI* = confidence interval; *r* = meta-analytic estimate expressed as a correlation (provided for the estimates at each level of the moderator, not for the difference across moderators); PI = prediction interval; Sig (*p*) = statistical significance level expressed as *p*-value. The overall model aggregated 5251 effect sizes across 702 studies (excluded cases classified as multiple levels of the moderator), and the overall moderation effect was significant: $F(df1 = 1, df2 = 5251) = 0.545$, *p*-val = .461. The level 1 I^2 for the overall model was 91.6 (level 2 = 48.2; level 3 = 43.3). The within-study $\sigma = .209$, and the between study $\sigma = .221$. Message framing analyses covered 1,384 effect sizes from 187 studies (total $N = 43{,}593$). Non-message framing analyses covered 3,867 effect sizes from 531 studies (total $N = 167{,}054$).

Table S21. Subgroup Analysis Results According to Message Matching Technique Used.

Moderator Level, Effect, and Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity			
	r	95% *CI*		Sig. (*p*)	Effect #	Study #	*N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*	
		Low	High							Low	High
a. Tailoring, not Framing											
Main effects											
Attitudes	.170	.119	.219	**<.001**	614	128	31206	59.3 / 32.9	.306 / .228	-.523	.728
Intentions	.144	.109	.179	**<.001**	700	122	32381	55.9 / 29.5	.209 / .152	-.349	.575
Self-Report Behavior	.069	.045	.094	**<.001**	242	44	43131	90.1 / 3.1	.158 / .029	-.243	.369
Observed Behavior	.108	.059	.156	**<.001**	128	33	12581	30.4 / 41.0	.097 / .112	-.187	.385
Interaction effects											
Attitudes	.222	.136	.305	**<.001**	53	46	10389	20.4 / 73.5	.135 / .256	-.346	.672
Intentions	.191	.133	.247	**<.001**	58	39	8304	33.1 / 51.9	.109 / .137	-.161	.499
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.152	.124	.180	**<.001**	1800	261	96311	53.1 / 40.0	.224 / .194	-.404	.626
b. Tailoring and Framing											
Main effects											
Attitudes	.158	.060	.253	**.002**	146	17	4455	41.4 / 37.5	.189 / .179	-.349	.594
Intentions	.140	.044	.233	**.005**	154	28	8783	17.7 / 70.3	.122 / .244	-.386	.597
Self-Report Behavior	.018	-.207	.242	.866	18	5	627	1.5 / 59.2	.033 / .208	-.447	.476
Observed Behavior	.229	-.135	.539	.207	34	6	1000	7.0 / 85.0	.124 / .431	-.636	.839
Interaction effects											
Attitudes	.220	.131	.306	**<.001**	15	11	1930	32.9 / 39.5	.085 / .093	-.063	.470
Intentions	.132	.022	.238	**.021**	18	18	4174	45.2 / 45.2	.146 / .146	-.306	.524
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.172	.104	.239	**<.001**	392	45	11407	25.7 / 59.9	.145 / .221	-.337	.603
c. Context, not Framing											
Main effects											
Attitudes	.247	.203	.290	**<.001**	886	170	37270	49.2 / 42.7	.279 / .260	-.460	.762
Intentions	.239	.199	.279	**<.001**	776	164	38617	48.5 / 42.2	.248 / .231	-.400	.722
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.248	.193	.302	**<.001**	103	20	22027	95.6 / 0.0	.255 / .000	-.250	.642
Interaction effects											
Attitudes	.258	.204	.311	**<.001**	105	85	15023	15.3 / 74.2	.105 / .231	-.237	.647

Intentions	.271	.217	.323	**<.001**	115	88	16526	21.7 / 69.2	.126 / .225	-.233	.660
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.214	-.113	.499	.158	7	7	838	45.2 / 45.2	.239 / .239	-.586	.803
TOTAL	.245	.216	.274	**<.001**	2008	291	78738	49.9 / 42.3	.248 / .228	-.389	.722
d. Context and Framing											
Main effects											
Attitudes	.179	.137	.220	**<.001**	328	74	16060	59.9 / 23.5	.208 / .130	-.294	.582
Intentions	.165	.127	.202	**<.001**	457	87	20372	39.8 / 40.7	.151 / .152	-.251	.529
Self-Report Behavior	.174	-.036	.369	.101	29	5	2384	53.1 / 34.2	.236 / .189	-.446	.681
Observed Behavior	.272	.133	.400	**<.001**	31	6	1337	6.3 / 67.1	.048 / .157	-.086	.567
Interaction effects											
Attitudes	.210	.132	.285	**<.001**	48	40	8461	29.9 / 60.7	.139 / .199	-.275	.609
Intentions	.217	.176	.257	**<.001**	61	55	10031	24.8 / 49.4	.079 / .111	-.055	.459
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.177	.149	.204	**<.001**	960	147	33845	47.3 / 34.8	.166 / .142	-.246	.543

Notes. *r* = meta-analytic estimates; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; *N* = cumulative sample size across studies used to derive meta-analytic estimates; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Significance values (p) in **bold** are significant at the p<.05 level.

2. Use of Different Comparison Conditions.

Table S22 provides fitted estimates from an overall meta-regression model that evaluated moderation across all levels of the moderator variable on the total estimates (i.e., aggregated across outcomes and effect sizes). For each level of the moderator variable, this table first lists the effect size for that level (expressed as *Z* and as *r*) and provides the corresponding significance level. Then, it provides tests of the degree to which each other level of the moderator variables significantly (or not) differ from it (with the difference expressed as *Z*).

Table S23 provides results from subgroup analyses for each specific outcome and effect type (similarly to Figure 9 in the manuscript), for each level of this moderator variable.

Table S22. Moderation (Meta-Regression) Results Comparing Total Estimates Across Each Type of Comparison Condition

Moderator Level (compared to)	**Z**					**r (for Comparison Level)**					
	Z	***SE***	***t***	**95% *CI***		***r***	**95% *CI***		**95% *PI***		**Sig.**
				Low	**High**		**Low**	**High**	**Low**	**High**	**(*p*)**
a. Negative Match	.306	.027	11.131	.252	.359	.296	.247	.345	-.284	.718	**<.001**
b. Non-Match	-.111	.028	-3.999	-.165	-.056						**<.001**
c. Mismatch	-.017	.039	-.435	-.092	.059						.664
d. Generic	-.138	.038	-3.644	-.212	-.064						**<.001**
e. Weak Match	-.147	.042	-3.532	-.229	-.066						**<.001**
f. Mixed Appeal	-.132	.041	-3.217	-.212	-.051						**.001**
b. Non-Match	.195	.010	19.811	.176	.214	.192	.174	.211	-.381	.659	**<.001**
a. Negative Match	.111	.028	3.999	.056	.165						**<.001**
c. Mismatch	.094	.032	2.906	.031	.157						**.004**
d. Generic	-.027	.028	-.962	-.082	.028						.336
e. Weak Match	-.037	.034	-1.074	-.103	.030						.283
f. Mixed Appeal	-.021	.035	-.601	-.089	.047						.548
c. Mismatch	.289	.032	9.059	.226	.351	.281	.222	.337	-.300	.710	**<.001**
a. Negative Match	.017	.039	.435	-.059	.092						.664
b. Non-Match	-.094	.032	-2.906	-.157	-.031						**.004**
d. Generic	-.121	.041	-2.927	-.202	-.040						**.003**
e. Weak Match	-.131	.044	-2.976	-.216	-.045						**.003**
f. Mixed Appeal	-.115	.046	-2.510	-.204	-.025						**.012**
d. Generic	.168	.028	6.087	.114	.222	.166	.113	.218	-.405	.644	**<.001**
a. Negative Match	.138	.038	3.644	-.059	.092						**<.001**
b. Non-Match	.027	.028	.962	-.157	-.031						.336
c. Mismatch	.121	.041	2.927	-.202	-.040						**.003**
e. Weak Match	-.010	.038	-.255	-.216	-.045						.799
f. Mixed Appeal	.006	.041	.148	-.204	-.025						.882
e. Weak Match	.158	.034	4.717	.093	.224	.157	.092	.220	-.414	.639	**<.001**
a. Negative Match	.147	.042	3.532	.066	.229						**<.001**
b. Non-Match	.037	.034	1.074	-.030	.103						.283
c. Mismatch	.131	.044	2.976	.045	.216						**.003**
d. Generic	.010	.038	.255	-.064	.083						.799

f. Mixed Appeal	.016	.039	.407	-.060	.091						.684
f. Mixed Appeal	.174	.035	4.980	.106	.242	.172	.105	.238	-.401	.649	**<.001**
a. Negative Match	.132	.041	3.217	.051	.212						**.001**
b. Non-Match	.021	.035	.601	-.047	.089						.548
c. Mismatch	.115	.046	2.510	.025	.204						**.012**
d. Generic	-.006	.041	-.148	-.087	.075						.882
e. Weak Match	-.016	.039	-.407	-.091	.060						.684

Notes. Z = meta-analytic estimate expressed as Fisher's *Z* (models were computed in Z, and all difference scores are expressed accordingly); *SE* = standard error; *t* = *t* statistic; *CI* = confidence interval; *r* = meta-analytic estimate expressed as a correlation (provided only for the estimates at each level of the moderator, not for the difference across moderators); PI = prediction interval; Sig (*p*) = statistical significance level expressed as *p*-value. The overall model aggregated 5243 effect sizes across 699 studies (excluded cases classified as multiple levels of the moderator), and the overall moderation effect was significant: $F(df1 = 5, df2 = 5237) = 5.096$, *p*-val < 0.001. The level 1 I^2 for the overall model was 91.5 (level 2 = 48.2; level 3 = 43.4). The within-study σ = .220, and the between study σ = .209.

Table S23. Subgroup Results According to Comparison Condition

Moderator Level, Effect, and Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity			
	r	95% *CI*		Sig. (*p*)	Effect #	Study #	*N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*	
		Low	High							Low	High
a. Negative Match											
Main effects											
Attitudes	.216	.150	.279	**<.001**	119	26	7280	59.2 / 24.3	.188 / .121	-.225	.583
Intentions	.318	.234	.397	**<.001**	119	34	9577	18.2 / 68.7	.125 / .243	-.217	.706
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
Interaction effects											
Attitudes	.289	.172	.398	**<.001**	18	10	2178	.0 / 77.9	.000 / .168	-.078	.587
Intentions	.251	.169	.329	**<.001**	12	10	1759	.0 / 48.4	.000 / .086	.048	.433
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.310	.251	.366	**<.001**	278	51	12661	29.3 / 56.4	.146 / .202	-.173	.673
b. Non-Match											
Main effects											
Attitudes	.214	.182	.244	**<.001**	1643	325	67677	54.1 / 37.2	.287 / .238	-.475	.740
Intentions	.191	.166	.217	**<.001**	1725	319	74657	50.5 / 38.4	.227 / .198	-.379	.656
Self-Report Behavior	.105	.015	.193	**.022**	101	15	4283	63.8 / 19.9	.230 / .128	-.401	.562
Observed Behavior	.232	.174	.287	**<.001**	209	42	29888	37.2 / 54.1	.139 / .167	-.194	.584
Interaction effects											
Attitudes	.233	.192	.274	**<.001**	186	156	29859	21.6 / 70.2	.128 / .230	-.276	.640
Intentions	.225	.193	.256	**<.001**	235	180	34848	27.8 / 60.5	.119 / .176	-.189	.571
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.268	.113	.410	**.003**	15	13	1491	0.0 / 81.5	.000 / .244	-.267	.677
TOTAL	.209	.189	.228	**<.001**	4119	583	143666	49.7 / 41.2	.235 / .214	-.389	.683
c. Mismatch											
Main effects											
Attitudes	.183	.053	.307	**.006**	129	20	5039	32.4 / 57.8	.207 / .276	-.470	.707
Intentions	.257	.079	.420	**.006**	59	15	3414	5.8 / 85.3	.090 / .344	-.440	.761
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
	-	-.356	.213	.576	14	4	1094	11.4 / 74.6	.099 / .252	-.625	.521
Observed Behavior	.078										
Interaction effects											

Attitudes	.237	.117	.349	**<.001**	18	13	2443	31.2 / 53.2	.123 / .160	-.200	.595
Intentions	.308	.029	.543	**.035**	9	9	1304	47.3 / 47.3	.257 / .257	-.514	.835
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.203	.108	.293	**<.001**	237	37	8528	22.0 / 67.9	.160 / .280	-.412	.690
d. Generic											
Main effects											
Attitudes	.241	-.190	.594	.257	23	6	969	9.7 / 82.3	.170 / .495	-.728	.889
Intentions	.123	.020	.223	**.020**	64	23	5325	12.0 / 71.3	.093 / .226	-.358	.553
Self-Report Behavior	.072	.044	.100	**<.001**	135	29	28267	78.2 / 11.9	.104 / .041	-.150	.288
Observed Behavior	.081	-.041	.200	.188	39	11	4450	61.6 / 29.7	.202 / .140	-.407	.532
Interaction effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.104	.054	.154	**<.001**	261	52	33910	47.8 / 47.5	.155 / .154	-.317	.491
e. Weak Pos. Match											
Main effects											
Attitudes	.123	.030	.215	**.012**	29	9	3164	42 / 31.4	.119 / .103	-.208	.429
Intentions	.082	-.026	.187	.134	47	9	3093	8.2 / 63.2	.053 / .148	-.247	.393
Self-Report Behavior	.062	.013	.110	**.014**	60	13	15108	93.0 / .0	.177 / .000	-.287	.396
Observed Behavior	.110	-.008	.225	.067	54	6	2505	.0 / 32.4	.000 / .124	-.163	.368
Interaction effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.094	.051	.138	**<.001**	193	28	19740	53.3 / 27.6	.123 / .089	-.205	.377
f. Mixed Appeal											
Main effects											
Attitudes	.036	-.046	.118	.384	51.0	8.0	3453	29.8 / 28.9	.091 / .089	-.229	.296
Intentions	.069	-.004	.141	.065	102.0	6.0	2249	19.6 / 22.0	.069 / .073	-.141	.273
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
Interaction effects											

Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.058	-.003	.118	.061	155.0	10.0	3936	25.1 / 22.8	.079 / .076	-.165	.275

Notes. *r* = meta-analytic estimates expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; *N* = cumulative sample size across studies used to derive meta-analytic estimates; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Significance values (p) in **bold** are significant at the p<.05 level.

3. Method of determining Characteristic.

Table S24 provides fitted estimates from an overall meta-regression model that evaluated moderation across all levels of the moderator variable on the total estimates (i.e., aggregated across outcomes and effect sizes). For each level of the moderator variable, this table first lists the effect size for that level (expressed as *Z* and as *r*) and provides the corresponding significance level. Then, it provides tests of the degree to which each other level of the moderator variables significantly (or not) differ from it (with the difference expressed as *Z*).

Table S25 provides results from subgroup analyses for each specific outcome and effect type (similarly to Figure 9 in the manuscript), for each level of this moderator variable.

Table S24. Moderation (Meta-Regression) Results Comparing Total Estimates Across Each Method of Determining Characteristics.

Moderator Level (compared to)	**Z**					**r (for Comparison Level)**					
	Z	***SE***	***t***	**95% *CI***		***r***	**95% *CI***		**95% *PI***		**Sig.**
				Low	**High**		**Low**	**High**	**Low**	**High**	**(*p*)**
a. Directly Measured	.176	.015	12.124	.147	.204	.174	.146	.202	-.389	.642	**<.001**
b. Indirectly Inferred	-.035	.022	-1.576	-.079	.009						.115
c. Manipulated	.045	.016	2.896	.015	.076						**.004**
b. Indirectly Inferred	.141	.019	7.371	.103	.178	.140	.103	.176	-.419	.621	**<.001**
a. Directly Measured	.035	.022	1.576	-.009	.079						.115
c. Manipulated	.081	.020	3.983	.041	.120						**<.001**
c. Manipulated	.221	.011	20.894	.200	.242	.217	.198	.237	-.350	.668	**<.001**
a. Directly Measured	-.045	.016	-2.896	-.076	-.015						**.004**
b. Indirectly Inferred	-.081	.020	-3.983	-.120	-.041						**<.001**

Notes. Z = meta-analytic estimate expressed as Fisher's *Z* (models were computed in Z, and all difference scores are expressed accordingly); *SE* = standard error; *t* = *t* statistic; *CI* = confidence interval; *r* = meta-analytic estimate expressed as a correlation (provided only for the estimates at each level of the moderator, not for the difference across moderators); PI = prediction interval; Sig (*p*) = statistical significance level expressed as *p*-value. The overall model aggregated 5060 effect sizes across 682 studies (excluded cases classified as multiple levels of the moderator), and the overall moderation effect was significant: $F(df1 = 2, df2 = 5057) = 9.950$, *p*-val <.001. The level 1 I^2 for the overall model was 91.1 (level 2 = 50.4; level 3 = 40.7). The within-study σ = .200, and the between study σ = .222.

Table S25. Subgroup Analysis Results According to Method of Determining Characteristics.

Moderator Level, Effect, and Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity			
	r	95% *CI*		Sig. (*p*)	Effect #	Study #	*N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*	
		Low	High							Low	High
a. Directly Measured											
Main effects											
Attitudes	.152	.092	.210	**<.001**	468	81	22843	59.4 / 31.9	.298 / .219	-.520	.707
Intentions	.150	.107	.193	**<.001**	619	92	26883	41.0 / 44.3	.176 / .183	-.336	.574
Self-Report Behavior	.065	.028	.102	**.001**	162	31	28950	92.7 / 3.2	.195 / .036	-.317	.428
Observed Behavior	.151	.061	.239	**.001**	112	26	10204	18.5 / 67.3	.112 / .214	-.323	.565
Interaction effects											
Attitudes	.175	.117	.231	**<.001**	45	36	8520	39.5 / 44.2	.110 / .117	-.152	.467
Intentions	.172	.104	.237	**<.001**	50	37	8512	20.7 / 68.4	.094 / .172	-.222	.517
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.198	-.087	.454	.143	8	6	597	.0 / 80.2	.000 / .272	-.464	.719
TOTAL	.153	.120	.186	**<.001**	1466	181	71404	48.3 / 44.2	.209 / .200	-.391	.618
b. Indirectly Inferred											
Main effects											
Attitudes	.163	.124	.202	**<.001**	287	75	17042	77.1 / 8.5	.248 / .082	-.337	.592
Intentions	.112	.067	.156	**<.001**	238	59	16336	69.6 / 15.9	.221 / .106	-.356	.535
Self-Report Behavior	.049	-.030	.127	.214	36	10	2946	51.2 / 24.5	.117 / .081	-.245	.334
Observed Behavior	.112	.012	.209	**.030**	21	10	1930	.0 / 67.7	.000 / .123	-.162	.370
Interaction effects											
Attitudes	.199	.074	.318	**.004**	16	14	2734	.0 / 88.1	.000 / .209	-.256	.582
Intentions	.192	.098	.282	**<.001**	19	14	3058	51.4 / 31.7	.130 / .102	-.163	.503
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.144	.113	.175	**<.001**	617	123	28980	66.9 / 19	.215 / .114	-.322	.554
c. Manipulated											
Main effects											
Attitudes	.220	.184	.256	**<.001**	1204	227	48205	49.4 / 41.4	.263 / .241	-.444	.729
Intentions	.220	.189	.250	**<.001**	1241	243	56095	45.5 / 43.5	.220 / .215	-.364	.680
Self-Report Behavior	.162	.006	.310	**.042**	44	6	2265	52.7 / 27.7	.220 / .160	-.386	.625
Observed Behavior	.236	.177	.293	**<.001**	134	25	23246	76.8 / 17.0	.207 / .097	-.213	.603
Interaction effects											
Attitudes	.240	.196	.282	**<.001**	157	128	23840	19.7 / 70.1	.116 / .219	-.243	.627

Intentions	.250	.215	.285	**<.001**	184	150	27258	30.5 / 57.2	.129 / .177	-.176	.598
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.246	-.036	.491	.077	8	8	933	44.9 / 44.9	.228 / .228	-.511	.788
TOTAL	.222	.199	.244	**<.001**	2977	418	106344	48.7 / 41.8	.227 / .210	-.363	.681

Notes. *r* = meta-analytic estimates; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; *N* = cumulative sample size across studies used to derive meta-analytic estimates; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Significance values (p) in **bold** are significant at the p<.05 level.

Section 6. Examining Additional Moderators of Functional Matching Effects

Tables S26 to S35 present the full results of the subgroup analyses for each moderator. These tables include estimates both for specific outcome and effect types, as well as total estimates (aggregating across outcome and effect type).

Table S26. Subgroup Results According to Behavioral Domain.

Moderator Level, Effect, and Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity			
	r	95% *CI*		Sig.	Effect #	Study #	*N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*	
		Low	High	(*p*)						Low	High
a. Health Behaviors											
Main effects											
Attitudes	.132	.069	.193	**<.001**	424	69	16422	29.6 / 55.0	.174 / .237	-.421	.613
Intentions	.133	.096	.171	**<.001**	811	124	32624	22.4 / 59.6	.121 / .197	-.310	.529
Self-Report Behavior	.077	.046	.107	**<.001**	296	54	45852	78.3 / 15.1	.163 / .072	-.268	.404
Observed Behavior	.097	-.003	.195	.057	83	26	8632	7.4 / 82.9	.072 / .242	-.392	.543
Interaction effects											
Attitudes	.172	.115	.227	**<.001**	36	31	6709	5.4 / 68.9	.036 / .130	-.106	.425
Intentions	.178	.122	.233	**<.001**	65	56	10842	.0 / 86.8	.000 / .197	-.214	.521
Self-Report Behavior	.201	.106	.293	**.002**	7	5	533	.0 / .0	.000 / .000	.106	.293
Observed Behavior	.107	-.282	.466	.532	7	7	781	46.5 / 46.5	.291 / .291	-.751	.831
TOTAL	.125	.097	.152	**<.001**	1729	211	84847	32.1 / 57.3	.142 / .190	-.329	.531
b. Environmental Behaviors											
Main effects											
Attitudes	.100	.000	.198	**.049**	120	21	6076	49.8 / 40.0	.219 / .196	-.455	.599
Intentions	.208	.134	.279	**<.001**	257	32	7536	13.8 / 67.1	.092 / .202	-.228	.574
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.136	.061	.210	**<.001**	46	9	22874	47.5 / 45.7	.095 / .093	-.139	.392
Interaction effects											
Attitudes	.097	.026	.168	**.011**	17	16	5047	76.8 / .0	.117 / .000	-.159	.341
Intentions	.212	.155	.269	**<.001**	27	22	4555	.0 / 71.8	.000 / .114	-.025	.428
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.158	.110	.206	**<.001**	469	58	35588	33.7 / 55.6	.133 / .171	-.263	.529

c. Prosocial Behaviors											
Main effects											
Attitudes	.226	.119	.328	**<.001**	99	23	5463	49.8 / 41.1	.241 / .219	-.401	.709
Intentions	.131	.086	.176	**<.001**	222	53	9995	38.1 / 36.9	.136 / .134	-.242	.471
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.202	.089	.309	**<.001**	80	10	3186	57.6 / 21.9	.224 / .138	-.321	.630
Interaction effects											
Attitudes	.157	.104	.210	**<.001**	9	7	1753	.0 / .0	.000 / .000	.104	.210
Intentions	.196	.136	.253	**<.001**	43	36	6454	41.3 / 41.3	.117 / .117	-.140	.491
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.173	.133	.213	**<.001**	461	77	16875	52.9 / 30.5	.188 / .143	-.283	.566
d. Political Behaviors											
Main effects											
Attitudes	.158	.111	.204	**<.001**	149	37	9373	85.2 / 0.6	.253 / .021	-.332	.581
Intentions	.183	.083	.280	**<.001**	59	11	3291	91.1 / 1.0	.351 / .037	-.484	.716
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
Interaction effects											
Attitudes	.218	.077	.350	**.006**	14	12	3556	.0 / 90.9	.000 / .210	-.249	.603
Intentions	.332	-.092	.654	.087	4	4	636	42.3 / 42.3	.176 / .176	-.507	.848
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.169	.123	.215	**<.001**	234	44	11324	83.7 / 5.2	.269 / .067	-.361	.617
e. Consumer Behaviors											
Main effects											
Attitudes	.224	.192	.255	**<.001**	1423	242	50446	57.7 / 32.4	.275 / .206	-.420	.718
Intentions	.231	.194	.267	**<.001**	918	156	36590	57.3 / 33.1	.258 / .196	-.381	.702
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.293	.157	.418	**<.001**	22	9	2622	84.6 / .0	.289 / .000	-.305	.726
Interaction effects											
Attitudes	.239	.200	.278	**<.001**	160	126	22246	24.6 / 62.6	.117 / .187	-.192	.593
Intentions	.253	.215	.290	**<.001**	120	90	16996	32.9 / 50.6	.113 / .140	-.100	.549
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.236	.210	.261	**<.001**	2644	337	68940	52.7 / 37.7	.249 / .211	-.380	.707

Notes. *r* = meta-analytic estimates; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; *N* = cumulative sample size across studies used to derive meta-analytic estimates; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Significance values (p) in **bold** are significant at the p<.05 level.

Table S27. Subgroup Results According to Type of Behavior Change.

Moderator Level, Effect, and Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity			
	r	95% *CI*		Sig. (*p*)	Effect #	Study #	*N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*	
		Low	High							Low	High
a. Promoting Behavior											
Main effects											
Attitudes	.224	.193	.254	**<.001**	1770	322	69588	50.9 / 40.3	.273 / .243	-.455	.738
Intentions	.198	.171	.225	**<.001**	1685	300	71179	48.4 / 40.8	.226 / .208	-.382	.666
Self-Report Behavior	.090	.040	.140	**<.001**	172	35	21985	83.5 / 11.8	.227 / .085	-.372	.517
Observed Behavior	.196	.138	.252	**<.001**	263	46	31596	39.0 / 51.9	.150 / .173	-.251	.574
Interaction effects											
Attitudes	.250	.209	.290	**<.001**	196	159	30661	17.2 / 74.4	.115 / .239	-.262	.652
Intentions	.230	.197	.263	**<.001**	220	169	32679	28.1 / 60.6	.123 / .181	-.196	.584
Self-Report Behavior	.201	.106	.293	**.002**	7	5	533	.0 / .0	.000 / .000	.106	.293
Observed Behavior	.224	.084	.355	**.005**	12	9	1167	.0 / 64.9	.000 / .163	-.157	.547
TOTAL	.209	.189	.229	**<.001**	4325	586	160284	49.2 / 42.4	.232 / .215	-.388	.682
b. Limiting Behavior											
Main effects											
Attitudes	.088	.032	.142	**.002**	180	35	8538	75.2 / 11.1	.249 / .095	-.414	.548
Intentions	.127	.072	.182	**<.001**	303	45	12570	43.5 / 39.3	.167 / .158	-.317	.525
Self-Report Behavior	.070	.045	.095	**<.001**	132	27	30783	76.5 / 8.1	.095 / .031	-.129	.264
Observed Behavior	.060	-.035	.154	.209	41	14	4372	4.8 / 73.2	.039 / .155	-.269	.377
Interaction effects											
Attitudes	.131	.071	.191	**<.001**	22	19	3885	55.7 / 7.7	.098 / .036	-.093	.343
Intentions	.221	.112	.324	**<.001**	22	20	3538	24.4 / 65.4	.119 / .194	-.256	.611
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.115	.082	.148	**<.001**	702	97	47500	52.0 / 37.3	.163 / .138	-.296	.490

Notes. *r* = meta-analytic estimates expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; *N* = cumulative sample size across studies used to derive meta-analytic estimates; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Significance values (p) in **bold** are significant at the p<.05 level.

Table S28. Subgroup Results According to Outcome Assessment Time.

Moderator Level, Effect, and Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity			
	r	95% *CI*		Sig. (*p*)	Effect #	Study #	*N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*	
		Low	High							Low	High
a. Day of Study											
Main effects											
Attitudes	.209	.180	.237	**<.001**	1973	362	79317	52.4 / 38.8	.274 / .236	-.460	.727
Intentions	.195	.172	.219	**<.001**	2069	360	86177	46.9 / 41.4	.214 / .201	-.360	.649
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.221	.160	.280	**<.001**	268	45	28350	45.9 / 45.4	.180 / .179	-.271	.621
Interaction effects											
Attitudes	.238	.200	.275	**<.001**	221	178	34168	18.1 / 72.9	.114 / .228	-.256	.634
Intentions	.231	.201	.261	**<.001**	253	197	37481	27.0 / 61.3	.119 / .179	-.187	.578
Self-Report Behavior	.230	.070	.379	**.008**	18	15	1582	.0 / 84.1	.000 / .277	-.356	.687
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.211	.192	.229	**<.001**	4806	643	157785	47.4 / 43.0	.226 / .216	-.379	.679
b. At Least 1 Day											
Main effects											
Attitudes	.178	.083	.269	**<.001**	19	4	700	.0 / 5.6	.000 / .043	.047	.302
Intentions	-.012	-.134	.110	.842	31	10	3684	12.7 / 65.9	.074 / .168	-.385	.364
Self-Report Behavior	.077	.045	.108	**<.001**	297	54	45939	78.9 / 14.6	.167 / .072	-.275	.411
Observed Behavior	.069	.019	.118	**.008**	56	17	7883	21.2 / 47.5	.055 / .083	-.136	.267
Interaction effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	.201	.106	.293	**.002**	7	5	533	.0 / .0	.000 / .000	.106	.293
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.077	.050	.103	**<.001**	411	70	51783	72.3 / 18.5	.147 / .074	-.244	.382
c. Within 1 Month											
Main effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-.005	-.190	.180	.955	23	7	2580	12.8 / 69.5	.091 / .212	-.477	.469
Self-Report Behavior	.120	.043	.194	**.002**	116	25	11888	77.8 / 11.2	.279 / .106	-.444	.615
Observed Behavior	.111	.075	.147	**<.001**	26	7	3363	41.7 / .0	.057 / .000	-.011	.230
Interaction effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-

Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	.201	.106	.293	**.002**	7	5	533	.0 / .0	.000 / .000	.106	.293
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.111	.058	.163	**<.001**	183	37	16074	71.2 / 14.7	.216 / .098	-.346	.525
d. 1-6 Months											
Main effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-.026	-.120	.068	.522	7	4	1125	.0 / 20.8	.000 / .041	-.162	.111
Self-Report Behavior	.052	.027	.078	**<.001**	129	31	34820	91.2 / .0	.131 / .000	-.205	.303
Observed Behavior	.022	-.058	.102	.572	18	8	2973	.0 / 64.4	.000 / .092	-.186	.228
Interaction effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.047	.024	.070	**<.001**	163	36	36099	86.8 / 1.9	.122 / .018	-.196	.284
e. More than 6 Months											
Main effects											
Attitudes	-	-	-	-	-	-	- -	-	-	-	-
Intentions	-	-	-	-	-	-	- -	-	-	-	-
Self-Report Behavior	.063	.033	.092	**<.001**	52	11	15900	87.6 / .0	.095 / .000	-.130	.250
Observed Behavior	.025	-.156	.204	.759	8	4	2727	34.7 / 52.5	.100 / .123	-.373	.415
Interaction effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.061	.033	.089	**<.001**	61	12	16781	87 / .0	.097 / .000	-.135	.252

Notes. *r* = meta-analytic estimates expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; *N* = cumulative sample size across studies used to derive meta-analytic estimates; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Significance values (p) in **bold** are significant at the p<.05 level.

Table S29. Subgroup Results According to Sample Type.

Moderator Level, Effect, and Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity			
	r	95% *CI*		Sig. (*p*)	Effect #	Study #	*N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*	
		Low	High							Low	High
a. College/University Students											
Main effects											
Attitudes	.216	.179	.252	**<.001**	1398	255	50172	52.0 / 39.4	.291 / .254	-.492	.752
Intentions	.203	.172	.234	**<.001**	1314	243	49988	49.3 / 39.7	.238 / .214	-.399	.683
Self-Report Behavior	.129	.066	.192	**<.001**	52	10	1510	17.6 / 13.6	.068 / .060	-.062	.312
Observed Behavior	.228	.172	.282	**<.001**	228	31	4038	50.4 / 16.3	.203 / .115	-.229	.602
Interaction effects											
Attitudes	.255	.204	.305	**<.001**	159	129	22255	17.5 / 75.1	.129 / .268	-.318	.692
Intentions	.243	.199	.286	**<.001**	169	127	21263	21.9 / 68.6	.125 / .221	-.249	.636
Self-Report Behavior	.139	-.218	.463	.307	4	4	433	38.1 / 38.1	.137 / .137	-.520	.694
Observed Behavior	.221	.033	.393	**.024**	16	13	1331	.0 / 85.1	.000 / .300	-.416	.712
TOTAL	.221	.197	.244	**<.001**	3340	447	82097	47.2 / 42.6	.243 / .230	-.407	.707
b. Online Community Sample											
Main effects											
Attitudes	.154	.121	.188	**<.001**	343	77	21948	68.4 / 14.5	.197 / .090	-.265	.525
Intentions	.157	.120	.194	**<.001**	543	85	26906	46.0 / 37.0	.162 / .145	-.264	.527
Self-Report Behavior	.019	-.036	.073	.488	36	9	14423	35.1 / 45.1	.056 / .063	-.160	.196
Observed Behavior	.124	-.016	.260	.079	20	9	4582	39.7 / 45	.142 / .151	-.319	.523
Interaction effects											
Attitudes	.164	.133	.195	**<.001**	40	33	7927	.0 / 34.6	.000 / .053	.054	.271
Intentions	.197	.161	.233	**<.001**	57	50	11362	71.3 / .0	.114 / .000	-.032	.407
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.153	.128	.177	**<.001**	1040	150	56397	53.1 / 31.1	.161 / .123	-.239	.502
c. Offline Community Sample											
Main effects											
Attitudes	.235	.135	.330	**<.001**	160	16	3354	62.8 / 26.7	.266 / .174	-.378	.704
Intentions	.285	.165	.396	**<.001**	143	18	3871	34.8 / 54.3	.200 / .250	-.338	.734
Self-Report Behavior	.084	.017	.151	**.015**	90	16	21323	77.8 / 19.5	.187 / .093	-.324	.466
Observed Behavior	.158	.079	.235	**<.001**	46	11	23205	22.2 / 71.5	.065 / .116	-.119	.413
Interaction effects											
Attitudes	.272	.223	.320	**<.001**	10	8	2012	14.5 / .0	.028 / .000	.194	.347

Intentions	.248	.183	.312	**<.001**	20	13	2862	30.8 / 33.8	.071 / .074	.029	.445
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.175	.130	.219	**<.001**	472	52	48997	72.2 / 23.2	.224 / .127	-.320	.595
d. Non-Diagnosed Population at Risk											
Main effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	.037	-.062	.136	.454	33	11	3147	74.8 / 13.4	.209 / .089	-.411	.471
Self-Report Behavior	.083	.030	.136	**.003**	94	15	7082	89.1 / 4.2	.202 / .044	-.320	.461
	-	-.121	.087	.733	17	7	3224	3.5 / 72.3	.025 / .115	-.280	.248
Observed Behavior	.017										
Interaction effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	.076	-.195	.337	.439	4	4	1074	42.8 / 42.8	.112 / .112	-.459	.571
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.066	.025	.106	**.002**	163	24	10031	84.3 / 6.3	.187 / .051	-.308	.422
e. Diagnosed Patients											
Main effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
Interaction effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.063	.021	.105	**.005**	19	5	2396	31.5 / .0	.048 / .000	-.047	.171
f. Children/Adolescents											
Main effects											
Attitudes	.469	-.201	.840	.150	18.0	5.0	779	22.9 / 75.0	.393 / .711	-.873	.983
Intentions	.187	.138	.235	**<.001**	63.0	7.0	1944	73.6 / .0	.168 / .000	-.150	.485
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
Interaction effects											

Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.308	.037	.536	**.027**	102.0	12.0	3656	13.1 / 83.6	.190 / .480	-.631	.881

Notes. *r* = meta-analytic estimates expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; *N* = cumulative sample size across studies used to derive meta-analytic estimates; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Significance values (p) in **bold** are significant at the p<.05 level.

Table S30. Subgroup Results According to Continent Sample was Drawn From.

Moderator Level, Effect, and Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity			
	r	95% *CI*		Sig. (*p*)	Effect #	Study #	*N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*	
		Low	High							Low	High
a. North America											
Main effects											
Attitudes	.136	.112	.160	**<.001**	1191	217	46577	60.5 / 21.9	.214 / .129	-.340	.556
Intentions	.141	.117	.164	**<.001**	1245	229	53467	53.4 / 30.2	.189 / .143	-.313	.542
Self-Report Behavior	.078	.048	.108	**<.001**	236	41	31755	87.8 / 5.1	.171 / .041	-.264	.403
Observed Behavior	.151	.091	.210	**<.001**	228	42	12914	36.8 / 42.4	.156 / .167	-.293	.541
Interaction effects											
Attitudes	.187	.154	.220	**<.001**	141	112	21082	40.5 / 41.1	.119 / .119	-.144	.481
Intentions	.208	.172	.243	**<.001**	137	107	20456	24.7 / 60.0	.096 / .150	-.141	.511
Self-Report Behavior	.139	-.218	.463	.307	4	4	433	38.1 / 38.1	.137 / .137	-.520	.694
Observed Behavior	.228	.017	.419	**.037**	13	12	1185	.0 / 88.5	.000 / .320	-.461	.745
TOTAL	.148	.131	.164	**<.001**	3195	430	117184	54.9 / 31.3	.186 / .141	-.300	.542
b. Asia											
Main effects											
Attitudes	.292	.225	.356	**<.001**	468	80	17519	51.0 / 42.1	.306 / .278	-.473	.806
Intentions	.239	.185	.292	**<.001**	422	70	18065	43.0 / 45.9	.204 / .211	-.323	.676
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.250	.204	.294	**<.001**	33	4	19592	85.6 / .00	.079 / .000	.087	.399
Interaction effects											
Attitudes	.288	.188	.382	**<.001**	53	39	7705	2.9 / 91.0	.056 / .315	-.339	.738
Intentions	.211	.160	.260	**<.001**	59	46	10528	3.0 / 79.3	.030 / .157	-.109	.491
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.284	.237	.328	**<.001**	1038	135	48348	42.1 / 52.0	.236 / .263	-.383	.756
c. Europe											
Main effects											
Attitudes	.211	.121	.297	**<.001**	226	47	9591	34.3 / 58.2	.215 / .281	-.453	.725
Intentions	.205	.153	.257	**<.001**	261	40	9407	26.6 / 48.2	.115 / .154	-.172	.530
Self-Report Behavior	.028	-.009	.066	.135	49	13	14310	61.7 / 18.7	.073 / .040	-.143	.199
Observed Behavior	.240	.127	.346	**<.001**	68	15	3876	28.7 / 56.1	.143 / .199	-.253	.634
Interaction effects											
Attitudes	.167	.112	.221	**<.001**	18	18	5113	30.7 / 30.7	.057 / .057	-.011	.335

Intentions	.227	.171	.282	**<.001**	26	25	4285	.00 / 67.2	.000 / .114	-.012	.442
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.196	.150	.242	**<.001**	653	97	30807	33.9 / 56.7	.164 / .212	-.318	.622
d. Oceania											
Main effects											
Attitudes	.465	.132	.704	**.009**	67	12	4769	34.3 / 63.9	.437 / .597	-.770	.966
Intentions	.406	.126	.626	**.006**	89	14	5601	29.2 / 68.5	.352 / .540	-.710	.941
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
Interaction effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	.434	-.299	.845	.183	6	6	1273	49.5 / 49.5	.518 / .518	-.917	.987
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.365	.127	.563	**.004**	178	18	6248	30.7 / 67.1	.352 / .521	-.708	.929

Notes. *r* = meta-analytic estimates expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; *N* = cumulative sample size across studies used to derive meta-analytic estimates; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Significance values (p) in **bold** are significant at the p<.05 level.

Table S31. Subgroup Results According to Gender Composition of Sample.

Moderator Level, Effect, and Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity			
	r	95% *CI*		Sig. (*p*)	Effect #	Study #	*N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*	
		Low	High							Low	High
a. Female >= 75%											
Main effects											
Attitudes	.140	.076	.203	**<.001**	137	24	4944	33.0 / 41.5	.113 / .127	-.198	.448
Intentions	.146	.072	.219	**<.001**	186	30	7285	17.2 / 63.8	.100 / .192	-.279	.524
Self-Report Behavior	.101	.046	.156	**<.001**	81	14	9805	96.3 / 0.6	.228 / .018	-.342	.508
Observed Behavior	.194	.077	.307	**.002**	66	10	2246	7.3 / 60.6	.060 / .173	-.186	.524
Interaction effects											
Attitudes	.181	.009	.343	**.041**	13	10	2409	8.8 / 81.6	.074 / .225	-.347	.622
Intentions	.247	.163	.327	**<.001**	20	16	4080	.0 / 75.9	.000 / .144	-.061	.512
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.151	.108	.194	**<.001**	506	64	20485	39.2 / 49.1	.137 / .153	-.249	.507
b. Female =50% to <75%											
Main effects											
Attitudes	.183	.141	.224	**<.001**	1010	162	39431	54.5 / 36.0	.277 / .225	-.475	.710
Intentions	.190	.157	.222	**<.001**	1171	186	47958	52.0 / 36.5	.230 / .193	-.378	.654
Self-Report Behavior	.078	.037	.118	**<.001**	176	32	29595	71.7 / 21.0	.149 / .080	-.253	.392
Observed Behavior	.162	.087	.235	**<.001**	123	31	11965	18.6 / 64.6	.103 / .193	-.269	.539
Interaction effects											
Attitudes	.196	.153	.239	**<.001**	92	74	13732	10.1 / 72.8	.061 / .163	-.148	.498
Intentions	.191	.156	.225	**<.001**	132	100	19295	32.8 / 50.2	.106 / .131	-.141	.484
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.273	.173	.367	**<.001**	8	5	679	.0 / 7.0	.000 / .033	.147	.390
TOTAL	.181	.156	.205	**<.001**	2717	323	101877	51.6 / 39.6	.228 / .200	-.391	.652
c. Female < 50%											
Main effects											
Attitudes	.242	.174	.307	**<.001**	492	93	20528	42.3 / 50.9	.274 / .301	-.505	.781
Intentions	.202	.144	.259	**<.001**	463	88	22109	39.6 / 52.1	.217 / .248	-.418	.694
Self-Report Behavior	.075	-.014	.163	.094	39	7	3133	27.4 / 31.5	.086 / .092	-.192	.333
Observed Behavior	.229	.165	.291	**<.001**	94	13	2291	79.5 / .0	.276 / .000	-.308	.655
Interaction effects											
Attitudes	.236	.148	.321	**<.001**	60	46	9308	30.0 / 63.4	.175 / .254	-.364	.698

Intentions	.280	.199	.358	**<.001**	60	48	9457	23.1 / 70.7	.145 / .255	-.296	.707
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.311	.177	.433	**.003**	5	5	575	.0 / .0	.000 / .000	.177	.433
TOTAL	.221	.181	.260	**<.001**	1213	170	38101	44.2 / 47.4	.233 / .242	-.410	.709

Notes. *r* = meta-analytic estimates expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; *N* = cumulative sample size across studies used to derive meta-analytic estimates; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Significance values (p) in **bold** are significant at the p<.05 level.

Table S32. Subgroup Results According to Number of Characteristics Targeted for Matching.

Moderator Level, Effect, and Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity			
	r	95% *CI*		Sig. (*p*)	Effect #	Study #	*N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*	
		Low	High							Low	High
a. 1 Characteristic											
Main effects											
Attitudes	.209	.180	.237	**<.001**	1954	359	77686	52.5 / 38.6	.276 / .236	-.463	.728
Intentions	.195	.171	.219	**<.001**	2008	356	84195	47.7 / 40.8	.218 / .201	-.366	.653
Self-Report Behavior	.078	.010	.146	**.024**	124	24	7520	67.0 / 20.5	.206 / .114	-.373	.500
Observed Behavior	.207	.149	.264	**<.001**	252	49	31217	41.9 / 50.1	.165 / .181	-.269	.602
Interaction effects											
Attitudes	.238	.200	.274	**<.001**	222	179	34480	18.3 / 72.7	.114 / .227	-.255	.632
Intentions	.231	.201	.260	**<.001**	255	198	37751	26.7 / 61.6	.118 / .179	-.186	.577
Self-Report Behavior	.201	.106	.293	**.002**	7	5	533	.0 / .0	.000 / .000	.106	.293
Observed Behavior	.225	.050	.387	**.015**	16	14	1530	.0 / 85.8	.000 / .290	-.393	.703
TOTAL	.207	.188	.225	**<.001**	4838	653	162123	48.4 / 42.2	.228 / .213	-.383	.676
b. 2-9 Characteristics											
Main effects											
Attitudes	.112	-.026	.246	.107	34	7	1862	7.8 / 66.9	.057 / .168	-.267	.462
Intentions	.083	-.033	.197	.159	82	7	1447	.0 / 61.5	.0 / .148	-.229	.379
Self-Report Behavior	.154	.026	.277	**.020**	37	5	2276	97.5 / .0	.371 / .0	-.543	.725
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
Interaction effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.126	.062	.188	**<.001**	209	17	4754	55.8 / 23.8	.164 / .107	-.258	.475
c. 10+ Characteristics											
Main effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	.056	.007	.105	**.027**	17	6	7553	63.4 / .0	.074 / .000	-.107	.216
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
Interaction effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-

Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.079	.028	.129	**.004**	22	6	7553	61.4 / 9.1	.078 / .030	-.101	.253
d. Unclear Number of Characteristics											
Main effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	.038	-.111	.185	.606	28	8	3533	8.3 / 79.1	.064 / .197	-.390	.453
Self-Report Behavior	.062	.039	.085	**<.001**	127	23	29523	76.0 / 9.8	.083 / .030	-.113	.234
Observed Behavior	.003	-.056	.062	.919	19	7	3750	.0 / 48.5	.000 / .060	-.135	.141
Interaction effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.060	.030	.089	**<.001**	182	32	33798	53.5 / 33.4	.082 / .065	-.148	.262

Notes. *r* = meta-analytic estimates expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; *N* = cumulative sample size across studies used to derive meta-analytic estimates; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Significance values (p) in **bold** are significant at the p<.05 level.

Table S33. Subgroup Results According to Message Length.

Moderator Level, Effect, and Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity			
	r	95% *CI*		Sig. (*p*)	Effect #	Study #	*N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*	
		Low	High							Low	High
a. Short											
Main effects											
Attitudes	.226	.182	.269	**<.001**	574	97	21308	50.2 / 36.8	.221 / .189	-.330	.666
Intentions	.176	.143	.208	**<.001**	540	102	23605	70.1 / 16.0	.231 / .111	-.316	.593
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.194	.101	.284	**<.001**	91	14	4496	18.9 / 37.4	.106 / .149	-.178	.518
Interaction effects											
Attitudes	.298	.231	.362	**<.001**	80	61	12484	20.1 / 72.0	.128 / .241	-.236	.694
Intentions	.247	.205	.287	**<.001**	97	69	13489	51.5 / 30.2	.139 / .106	-.097	.538
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.325	.194	.445	**.001**	7	4	359	.0 / .0	.000 / .000	.194	.445
TOTAL	.227	.197	.256	**<.001**	1406	188	41217	47.9 / 39.0	.200 / .181	-.290	.641
b. Medium											
Main effects											
Attitudes	.222	.177	.267	**<.001**	893	171	41989	54.9 / 38.4	.307 / .257	-.509	.767
Intentions	.209	.169	.248	**<.001**	1085	181	47460	38.0 / 52.7	.212 / .250	-.408	.695
Self-Report Behavior	.038	-.151	.225	.687	39	7	5964	42.2 / 44.0	.205 / .209	-.526	.579
Observed Behavior	.192	.030	.344	**.022**	52	15	22581	5.3 / 93.2	.073 / .306	-.429	.690
Interaction effects											
Attitudes	.227	.161	.292	**<.001**	81	67	13912	7.2 / 85.7	.076 / .263	-.308	.653
Intentions	.212	.157	.264	**<.001**	108	87	18190	11.8 / 80.5	.091 / .236	-.282	.617
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	.048	-.385	.463	.798	6	6	855	47.2 / 47.2	.295 / .295	-.807	.838
TOTAL	.210	.180	.240	**<.001**	2269	292	92552	45.9 / 47.1	.241 / .244	-.431	.710
c. Long											
Main effects											
Attitudes	.280	.117	.428	**.001**	127	13	1918	50.0 / 37.1	.304 / .262	-.481	.800
Intentions	.171	.097	.243	**<.001**	125	24	5290	68.3 / 15.8	.242 / .116	-.349	.610
Self-Report Behavior	.081	.055	.108	**<.001**	235	42	37779	90.8 / 2.8	.166 / .029	-.247	.393
Observed Behavior	.122	.056	.187	**<.001**	113	20	7217	65.1 / 18.3	.186 / .099	-.292	.497
Interaction effects											
Attitudes	.275	.159	.383	**<.001**	11	7	952	71.2 / 0.9	.150 / .017	-.075	.565

Intentions	.356	.220	.478	**<.001**	9	7	861	34.6 / 39.2	.105 / .112	-.011	.639
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.132	.096	.166	**<.001**	622	74	45234	76.8 / 17.1	.228 / .107	-.348	.556

Notes. *r* = meta-analytic estimates expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; *N* = cumulative sample size across studies used to derive meta-analytic estimates; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Significance values (p) in **bold** are significant at the p<.05 level.

Table S34. Subgroup Results According to Message Modality.

Moderator Level, Effect, and Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity			
	r	95% *CI*		Sig. (*p*)	Effect #	Study #	*N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*	
		Low	High							Low	High
a. Audio(Visual)											
Main effects											
Attitudes	.070	-.405	.515	.770	16	4	817	24.2 / 72.1	.259 / .447	-.815	.856
Intentions	.138	.016	.257	**.027**	96	17	3944	43.9 / 45.9	.213 / .218	-.445	.639
Self-Report Behavior	.164	-.088	.397	.188	20	4	885	95.2 / .0	.527 / .000	-.747	.861
Observed Behavior	.229	.129	.325	**<.001**	31	5	551	53.2 / .0	.195 / .000	-.177	.569
Interaction effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	.064	-.108	.232	.400	7	7	1284	41.5 / 41.5	.120 / .120	-.367	.472
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.171	.075	.265	**<.001**	176	25	4947	56.9 / 33.4	.264 / .203	-.455	.685
b. Images(With/Without Text)											
Main effects											
Attitudes	.205	.163	.246	**<.001**	371	61	14738	64.2 / 19.6	.217 / .120	-.275	.603
Intentions	.209	.147	.270	**<.001**	286	55	14228	55.1 / 35.8	.239 / .193	-.376	.676
Self-Report Behavior	.050	-.043	.142	.278	30	9	11203	93.3 / .0	.238 / .000	-.417	.497
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
Interaction effects											
Attitudes	.183	.127	.239	**<.001**	35	28	6985	70.6 / 9.1	.137 / .049	-.115	.451
Intentions	.199	.142	.254	**<.001**	36	28	7294	40.2 / 37.7	.099 / .096	-.085	.452
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.199	.162	.236	**<.001**	769	102	32889	59.8 / 29.1	.221 / .154	-.318	.625
c. Text Only											
Main effects											
Attitudes	.207	.173	.241	**<.001**	1428	264	58560	54.2 / 37.3	.290 / .240	-.485	.740
Intentions	.192	.164	.221	**<.001**	1562	262	62590	43.9 / 44.0	.208 / .208	-.366	.649
Self-Report Behavior	.102	.022	.182	**.014**	101	16	4878	50.8 / 28.4	.171 / .128	-.316	.488
Observed Behavior	.209	.124	.291	**<.001**	156	28	26427	33.5 / 61.5	.156 / .212	-.305	.629
Interaction effects											
Attitudes	.254	.207	.301	**<.001**	161	128	24856	12.8 / 79.2	.103 / .255	-.278	.667

Intentions	.244	.207	.280	**<.001**	191	145	26832	21.4 / 67.9	.111 / .198	-.198	.603
Self-Report Behavior	.140	-.140	.400	.255	6	4	400	.0 / 74.1	.000 / .189	-.398	.607
Observed Behavior	.167	-.119	.427	.222	11	9	956	.0 / 90.4	.000 / .369	-.606	.778
TOTAL	.204	.182	.226	**<.001**	3616	471	123158	47.6 / 43.2	.229 / .219	-.392	.680

Notes. *r* = meta-analytic estimates expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; *N* = cumulative sample size across studies used to derive meta-analytic estimates; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Significance values (p) in **bold** are significant at the p<.05 level.

Table S35. Subgroup Results According to Number of Message Exposures.

Moderator Level, Effect, and Outcome Type	Meta-Analytic Estimate				Synthesis Across			Heterogeneity			
	r	95% *CI*		Sig. (*p*)	Effect #	Study #	*N*	I^2 (lv2 / lv3)	σ (lv2 / lv3)	95% *PI*	
		Low	High							Low	High
a. Multiple Exposures											
Main effects											
Attitudes	.094	-.012	.199	.080	23	5	792	59.1 / .0	.181 / .000	-.287	.450
Intentions	.065	-.016	.146	.115	86	13	3649	66.2 / 16.8	.191 / .096	-.353	.461
Self-Report Behavior	.060	.042	.078	**<.001**	206	38	41849	88.3 / .6	.114 / .009	-.165	.279
Observed Behavior	.108	.052	.163	**<.001**	122	21	26349	14.7 / 70.2	.052 / .114	-.145	.348
Interaction effects											
Attitudes	-	-	-	-	-	-	-	-	-	-	-
Intentions	-	-	-	-	-	-	-	-	-	-	-
Self-Report Behavior	-	-	-	-	-	-	-	-	-	-	-
Observed Behavior	-	-	-	-	-	-	-	-	-	-	-
TOTAL	.082	.059	.105	**<.001**	446	64	67941	70.9 / 18.2	.125 / .063	-.191	.344
b. Single Exposure											
Main effects											
Attitudes	.211	.182	.239	**<.001**	1966	357	78278	52.0 / 39.1	.274 / .237	-.460	.728
Intentions	.198	.174	.222	**<.001**	2024	355	84466	45.9 / 42.0	.210 / .201	-.354	.647
Self-Report Behavior	.121	.027	.213	**.012**	99	18	4579	74.4 / 11.6	.306 / .120	-.491	.653
Observed Behavior	.220	.153	.285	**<.001**	201	42	10260	42.8 / 39.3	.195 / .187	-.304	.642
Interaction effects											
Attitudes	.239	.201	.276	**<.001**	220	177	34028	18.1 / 72.9	.114 / .229	-.256	.635
Intentions	.233	.203	.263	**<.001**	253	196	37341	26.7 / 61.4	.117 / .178	-.182	.578
Self-Report Behavior	.201	.106	.293	**.002**	7	5	533	.0 / .0	.000 / .000	.106	.293
Observed Behavior	.211	.024	.384	**.030**	15	13	1484	.0 / 86.7	.000 / .299	-.425	.708
TOTAL	.211	.192	.229	**<.001**	4785	638	138209	47.5 / 42.2	.228 / .214	-.379	.679

Notes. *r* = meta-analytic estimates expressed as a correlation; 95 % *CI* = 95% confidence interval; Sig (*p*) = statistical significance level expressed as *p*-value; Effect # = number of effect size estimates aggregated; Study # = number of studies used to derive meta-analytic estimate; *N* = cumulative sample size across studies used to derive meta-analytic estimates; I^2 = Higgin's and Thompson's I^2, where level 2 (lv2) refers to the within-cluster heterogeneity and level 3 (lv3) refers to the between-cluster heterogeneity (and lv2 + lv3 represents the total heterogeneity not attributable to sampling error); 95% PI = 95 % prediction interval. Significance values (p) in **bold** are significant at the p<.05 level.

Section 7. Evaluation of Certainty of Evidence

According to the GRADE Working Group, certainty of evidence can generally be defined as "the certainty that a true effect lies on one side of a specified threshold or within a chosen range" (Hultcrantz et al., 2017). The group notes that the specific formulation of the definition may depend on the type of inferences one wishes to evaluate. Criteria used to evaluate certainty of evidence similarly require considering the type of inference being evaluated, with certain criteria being more important in some contexts than others. Here, we describe the formal steps we applied to derive GRADE ratings for our review. Procedures are broken down according to the type of inferences being evaluated.

The GRADE working group provides guidance for rating certainty of evidence into four levels (high, moderate, low, very low), and provides definitions for these levels. These definitions were adapted to fit the specific questions evaluated in the current review (e.g., by framing the four levels in terms of the hypotheses evaluated).

In this section, we provide the decision procedure we followed for arriving to certainty decisions for the following questions (with decisions summarized in Table 4 of the manuscript):

1. Evidence for evaluating the primary hypothesis H1
2. Evidence that a given future functional matching study/intervention to be successful

The procedures for arriving to decisions are further summarized in tables included below. This section ends with references that provide additional information on GRADE.

1) Steps for Rating the Certainty of Evidence for Evaluating the Primary Hypothesis H1

Scope of Question Evaluated: We evaluated the hypothesis that the average effect of functional matching is small-to-moderate (r = .10 to r = .30) in magnitude on the four outcomes of interest. This covers findings in Table 2 (& 4) of the main manuscript. Ratings consider either 1 estimate (i.e., the overall estimate) or 2 estimates (i.e., for main effects and interaction effects).

Experiment / Randomized Control Trial: Because evidence comes solely from *experimental studies* (i.e., randomized control trials), ratings of certainty started as high, to be downgraded depending on whether other concerns arose.

***Indirectness*:** Indirectness (e.g., considering proxy outcomes for those in the PICOS) was never considered a serious issue as we applied strict outcome-based inclusion/exclusion criteria.

Results & Imprecision. Considered whether the meta-analytic estimate(s) produced was (were) in the expected range (r = .10 to r = .30), and whether the CI(s) was (were) within the expected range, or overlapped with the expected range. The following guidelines were followed for downgrading or not according to this factor.

- *No serious concern*: No downgrade.
    - If all estimates *and* CIs were within the expected range, certainty was not downgraded.
    - If all estimates were in the expected range, and one or more of the CIs were within the expected range.
- *Serious Concerns*: Downgrade by 1 level.
    - One or more of estimates were outside expected range, but for estimates outside expected range, CIs always overlap with the expected range.
- Very serious concern: Downgrade by 2-3 levels.

- Less than half of estimates in expected range (downgrade by 3)
- Half or more of estimates were in expected range, but for estimates outside expected range CIs generally did not overlap with the expected range (downgrade by 2)

Inconsistency: The current question concerns the location of the *average* effect size produced by functional message matching and is agnostic to the range of effects that make up the distribution. Therefore, for evaluating this question, we did not consider elements such as heterogeneity (e.g., prediction intervals, I^2). For outcomes where multiple estimates were produced (i.e., estimates for main effects vs. interaction effects), we considered the degree to which estimates were similar and the confidence intervals showed overlap with each other (i.e., less overlap = more serious concerns). When multiple estimates were produced, their confidence intervals always showed overlap with each other, and always overlapped with the hypothesized range of effects. Consequently, no downgrading was applied based on this factor.

Risk of Bias: Using the results from our sensitivity analyses, we evaluated the degree to which risk of bias may influence findings. Our manuscript provides a table that summarizes the evidence overall. From the patterns summarized, we find little reason for concerns to arise from risk of bias. These supplemental files provide results broken down according to each risk of bias variable and each outcome. However, no outcome showed strong concern for risk of bias. Consequently, this factor is always rated as not being of serious concern.

Publication Bias: The sensitivity analyses comparing published (peer-reviewed articles) to grey literature (dissertations/theses) found little evidence of bias in our findings (e.g., total tests was not significant). Putting aside the significance level of our moderation analyses, the meta-analytic estimates and CIs produced for grey literature were always consistent with H1. In

addition to the sensitivity analyses we conducted, the standard funnel plots similarly showed little evidence of publication bias. Contour-enhanced funnel plot showed a possible tendency, but this was limited to interaction effects, and was not always apparent. Only the estimate for self-report behavior differed meaningfully between main effects and interaction effects; however, this difference was already capture by the imprecision factor and likely better accounted for by it. Further, although the estimates differed from each other, neither estimate was inconsistent with our hypothesis H1. Overall, there was not enough evidence of publication bias from our analyses to warrant serious concerns for H1.

Table S36. Evaluating Certainty of Evidence Towards Hypothesis H1.

Outcomes	Estimate(s) [95% CIs]	*N* (Study #)	RCT	Indirectness	Result & Imprecision	Inconsistency	Risk of Bias	Publication bias	Certainty Level
Overall Effect	r = .20 [.18, .22]	206,482 (702)	Yes	No serious concern	No serious concern	No serious concern	No serious concern	No serious concern	⊕⊕⊕⊕ **High**
Attitude	r = .21 [.18, .24]; r = .24 [.20, .27]	79,548 (364); 34,598 (180)	Yes	No serious concern	No serious concern	No serious concern	No serious concern	No serious concern[a]	⊕⊕⊕⊕ **High**[a]
Intention	r = .19 [.17, .22]; r = .23 [.20, .26]	88,517 (369); 37,911 (199)	Yes	No serious concern	No serious concern	No serious concern	No serious concern	No serious concern[a]	⊕⊕⊕⊕ **High**[a]
Self-Report Behavior	r = .08 [.05, .11]; r = .20 [.11, .29]	46,428 (56); 533 (5)	Yes	No serious concern	Serious concern (-1)[b]	No serious concern	No serious concern	No serious concern[a]	⊕⊕⊕○ **Moderate**[a,b]
Observed Behavior	r = .18 [.13, .23]; r = .23 [.07, .38]	36,539 (62); 1,582 (15)	Yes	No serious concern	No serious concern	No serious concern	No serious concern	No serious concern[a]	⊕⊕⊕⊕ **High**[a]

Certainty Levels (definitions)

High.	High confidence that the population average effect size for functional matching lies within the range of r = .10 to r = .30.
Moderate.	Moderate confidence that the population average effect size for functional matching lies within the range of r = .10 to r = .30. The population parameter is likely to be close or within this range, but there is potential for it to be substantially different.
Low.	Limited confidence that the population average effect size for functional matching lies within the range of r = .10 to r = .30; the population parameter may be substantially outside this this range.
Very Low.	Very low confidence that the population average effect size for functional matching lies within the range of r = .10 to r = .30; the population parameter is likely to be substantially outside this range.

Notes. CI = confidence interval; N = sample size; RCT = randomized control trial (i.e., experiment).
[a]Interaction estimate may be biased, but no evidence of bias for the main effect estimate. Both are highly consistent with H1.
[b]Estimate may be slightly below expected range according to estimate based on larger sample, but CI overlaps with expected range (downgraded by 1).

2) Steps for Rating the Certainty of Evidence for a Future Functional Matching Study/Intervention to be Successful.

Scope of Question Evaluated: Evaluated the hypothesis that a future functional matching study or intervention would find a positive effect in favor of a positively matched message. This covers findings in Table 2 (& 4) of the main manuscript. Ratings considered either 1 estimate (i.e., the overall estimate) or 2 estimates (i.e., for main effects and interaction effects).

Experiment / Randomized Control Trial: Because evidence came solely from *experimental studies* (i.e., randomized control trials), ratings of certainty started as high, to be downgraded depending on whether other concerns arose.

***Indirectness*:** Indirectness (e.g., considering proxy outcomes) was never considered a serious issue as we applied strict inclusion/exclusion criteria in conducting the review.

Results & Imprecision. Considered whether the meta-analytic estimate(s) produced was (were) positive in direction, and whether the CI(s) was (were) also positive in their range. Decision criteria were similar as for the previous segment (i.e., rating the certainty of evidence for evaluating the primary hypothesis H1), but the range was defined in terms of positive effect sizes ($r > 0$) instead of a more specific range (e.g., r between .10 and .30).

Inconsistency: The current question concerns whether a given future message matching study or intervention can expect a positive effect ($r > .00$); therefore, not only does the point-based estimate of the mean matter, but the range/variability of effects as well. When multiple estimates were produced (main effects & interaction effects), we first considered the degree to which estimates were similar and the confidence intervals showed overlap with each other (i.e., less overlap = more serious concerns). When multiple estimates were produced, their confidence intervals always showed overlap with each other, and always overlapped with the hypothesized range of effects. Consequently, no downgrading was applied based on this criterion.

However, because the range of effects making up the distribution of functional matching effects matters for this question, we additionally considered elements heterogeneity (e.g., prediction intervals). Overall, and across all outcomes, prediction intervals were produced for all outcomes that extended into the negative range (often below r <-.20, which is a negative effect similar in magnitude to the average of functional matching overall). This was enough to warrant serious concern for *all* outcomes (downgrading certainty by 1).

Risk of Bias: Using the results from our sensitivity analyses, we evaluated the degree to which risk of bias may influence findings. Our manuscript provides a table that summarizes the evidence overall. From the patterns summarized, we found little reason for concerns to arise from risk of bias. These supplemental files provide results broken down according to each risk of bias variable and each outcome. However, no outcome showed strong concern for risk of bias. Consequently, this factor is always rated as not being of serious concern.

Publication Bias: The sensitivity analyses comparing published (peer-reviewed articles) to grey literature (dissertations/theses) found little evidence of bias in our findings (e.g., total tests was not significant). Putting aside the significance level of our moderation analyses, the meta-analytic estimates and CIs produced for grey literature were always consistent with the hypothesized range of effects (i.e., positive value of *r*). In addition to the sensitivity analyses we conducted, the standard funnel plots similarly show little evidence of publication bias, but contour-enhanced funnel plot showed a possible tendency, but this was limited to interaction effects, and was not always apparent. Only the estimate for self-report behavior differed meaningfully between main effects and interaction effects; however, both effects were significantly positive in direction. Given the lack of evidence of bias, we conclude that there is not enough evidence of publication bias from our specific analyses to warrant serious concerns.

Table S37. Evaluating Certainty of Evidence Towards a Future Study/Intervention Being Expected to Produce A positive Effect.

Outcomes	Estimate(s) [95% CIs]	*N* (Study #)	RCT	Indirectness	Result & Imprecision	Inconsistency	Risk of Bias	Publication bias	Certainty Level
Overall Effect	r = .20 [.18, .22]	206,482 (702)	Yes	No serious concern	No serious concern	Serious concern (-1)[a]	No serious concern	No serious concern	⨁⨁⨁◯ **Moderate**[a]
Attitude	r = .21 [.18, .24]; r = .24 [.20, .27]	79,548 (364); 34,598 (180)	Yes	No serious concern	No serious concern	Serious concern (-1)[a]	No serious concern	No serious concern[b]	⨁⨁⨁◯ **Moderate**[a,b]
Intention	r = .19 [.17, .22]; r = .23 [.20, .26]	88,517 (369); 37,911 (199)	Yes	No serious concern	No serious concern	Serious concern (-1)[a]	No serious concern	No serious concern[b]	⨁⨁⨁◯ **Moderate**[a,b]
Self-Report Behavior	r = .08 [.05, .11]; r = .20 [.11, .29]	46,428 (56); 533 (5)	Yes	No serious concern	No serious concern	Serious concern (-1)[a]	No serious concern	No serious concern[b]	⨁⨁⨁◯ **Moderate**[a,b]
Objective Behavior	r = .18 [.13, .23]; r = .23 [.07, .38]	36,539 (62); 1,582 (15)	Yes	No serious concern	No serious concern	Serious concern (-1)[a]	No serious concern	No serious concern[b]	⨁⨁⨁◯ **Moderate**[a,b]

Certainty Levels (definitions)

High.	High confidence that a future matching study would produce an effect that is positive in direction.
Moderate.	Moderate confidence that a future matching study would produce an effect that is positive in direction. An effect is likely to be positive, but there is potential for it to be negative in direction or approximately zero.
Low.	Limited confidence that a future matching study would produce an effect that is positive in direction. the population parameter may be substantially outside this this range.
Very Low.	Very low confidence that the population effect size is positive in direction; the population parameter is likely be negative in direction or approximately zero.

Notes. CI = confidence interval; N = sample size; RCT = randomized control trial (i.e., experiment).

[a]95% Prediction interval is very wide and extend below r = -.20 (downgrade by 1).

[b]Interaction estimate may be biased, but no evidence of bias for the main effect estimate. Both are significantly positive.

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