Concealment Stigma: The Social Costs of Concealing

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Abstract

People with concealable stigmatized identities often conceal to avoid facing prejudice and discrimination. Yet, this strategy carries risk; concealment may engender social costs. Across five studies in which participants (total $n = 1992$) were recruited from an online pool (Prolific) and an institutional undergraduate pool, we found that people who conceal, relative to people who disclose, were viewed as less moral and sociable (Studies 1-2B) regardless of the identity being concealed (Studies 2A-2B), and that these effects were moderated by whether or not an outgroup identity was claimed in the course of concealment (Study 2C) and the motivation for concealment (Study 3). Results suggest that concealment is strongly stigmatized, a fact which places members of already-stigmatized groups in a challenging situation wherein they must risk either the stigma of their identity or that of concealment. Pre-registrations, materials, code, and data for all studies are available on the Open Science Framework: https://osf.io/g7zjw/.

Keywords: Concealment, stigma, social cognition, morality, social identity

Concealment Stigma: The Social Costs of Concealing

People with concealable stigmatized identities commonly attempt to avoid stigmatization through concealment (Goffman, 1963; John et al., 2016; Jones et al., 1984; Newheiser & Barreto, 2014). Although concealability is associated with experiencing less prejudice and with more positive intergroup experiences (Le Forestier et al., 2020, 2022), concealment may also come with social costs, as withholding information may be seen as immoral. Those with concealable stigmatized identities therefore face a double bind wherein they must either risk the stigma of their concealable identity or that of concealment itself.

The present paper seeks to understand how people who conceal are evaluated. Specifically, we aim to assess the specific costs people who conceal face on dimensions of social cognition and to determine the conditions under which people who conceal face these costs.

Perceptions of People who Conceal

Multiple theoretical perspectives convergently predict that people who conceal may face social costs. Self-disclosure (i.e., the opposite of concealment) plays a key role in theories of relationship development (Altman et al., 1981; Altman & Taylor, 1973; Berg & Clark, 1986). Indeed, work drawing on these theories finds that self-disclosure is positively associated with interpersonal liking (Hays, 1985; Sprecher et al., 2013; Yum & Hara, 2005). Relatedly, theory on disclosure reciprocity posits that the receipt of disclosure is inherently rewarding and in some cases normatively expected (Altman, 1973). Additionally, the Disclosure Processes Model predicts positive interpersonal outcomes including liking resulting from disclosure of a stigmatized concealable identity (Chaudoir & Fisher, 2010).

Empirical work also supports the assertion that people who conceal face social costs. People who conceal are viewed as untrustworthy (John et al., 2016; Olanubi, 2019), and multiple

investigations have found that traits conceptually associated with withholding information (i.e.,

liar, phony) are evaluated negatively whereas traits associated with providing accurate

information (i.e., sincere, honest) are evaluated positively (Anderson, 1968; Cottrell et al., 2007).

These appraisals also spill into behavior, as perceivers are less likely to date or hire someone

who conceals (John et al., 2016). Even the timing of disclosure matters; disclosing one's identity

earlier in an intergroup interaction leads to stronger bonds and engenders more positive attitudes

towards the person who discloses (MacInnis & Hodson, 2015).

The harsh judgments we suggest may be associated with concealment may be thought of

as a sort of stigma additional to that of the identity being concealed. This stigma reflects a

perceived character blemish, consistent with conceptualizations of stigma theorists such as

Goffman (1963) and Jones et al. (1984)[1].

Present Work

Fundamental questions about perceivers' appraisals of those who conceal remain

unanswered. Of primary importance is how people who conceal are perceived in terms of basic

dimensions of social cognition. We primarily evaluate others in terms of their perceived warmth

and competence (Fiske et al., 2002, 2007), and morality and sociability are sometimes

distinguished as separate aspects of warmth (Leach et al., 2007). Evaluations along such

dimensions predict outcomes including prejudice (Fiske, 2018; Fiske et al., 2002) and

discrimination (Cuddy et al., 2007). Morality in particular predicts positive general evaluations

of targets (Brambilla et al., 2012; Leach et al., 2007), whereas sociability and competence may

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[1] In fact, behaviors conceptually related to (but not definitionally the same as) concealment have even been offered as archetypal examples of stigma, including perceived dishonesty and having been caught lying (Goffman, 1963; Jones et al., 1984).

lead either to positive or negative evaluations of others depending on the target's perceived morality (Landy et al., 2016).

Other fundamental questions concern the conditions under which social costs are imposed on those who conceal. These include whether those who conceal different categories of identities (e.g., sexual orientation versus occupation), who conceal stigmatized versus non-stigmatized identities, who do (versus do not) claim an outgroup identity in the course of their concealment, or who hold different motivations for concealing face different social costs.

To test these questions and begin exploring the dynamics of how people who conceal are perceived, we constructed brief, carefully controlled vignettes depicting concealment and disclosure and manipulating each of the features described above. Because of the highly moralized nature of concealment and the dominant role of morality in general evaluations of targets, we began with the predictions that people who conceal would be perceived as less moral and appraised less positively than people who disclose. We did not set out with predictions for effects on perceptions of sociability, but we updated our predictions in subsequent studies to reflect our developing understanding that the costs faced by people who conceal also include perceptions of unsociability. We had no predictions for effects on perceptions of competence throughout. Pre-registered confirmatory and exploratory analyses are presented in each study's introduction. Pre-registrations, along with open materials, data, and code are available on the Open Science Framework: https://osf.io/g7zjw/.

Study 1

In Study 1, we examined perceptions of people who conceal on basic dimensions of social cognition and a feeling thermometer. We predicted targets who concealed would be rated less moral and less positively on feeling thermometers, but did not have directional predictions

for perceptions of targets' sociability or competence. We additionally administered several single-item measures of traits conceptually related to concealment (i.e., "phony"). For brevity, analyses and results corresponding to these measures are reviewed in the online supplement.

Method

Here, and in all subsequent studies reported in the main text and online supplement, we report all measures, manipulations, and exclusions.

Participants

We conducted a power analysis in G*Power (Faul et al., 2007) to determine the sample size required for 80% power to detect an effect of $d = 0.28$ with an α-level of .05. This anticipated effect size was selected based on the smallest effect size observed in a previous study (see Study 1S in the online supplement). This procedure yielded a required sample size of 404 participants, which we rounded up by 20% to account for probable exclusions, yielding a final recruitment goal of 485 participants.

Ultimately, we recruited 485 participants from Prolific (prolific.ac). Participants were pre-screened for not having participated in either of two previous studies in this line of work (see Studies 1S and 2S in the online supplement) and were paid £0.29 for participating in a 3-minute study. Following our pre-registered plan, 23 participants were excluded for failing the first attention check, six were excluded for failing the second attention check, 14 were excluded for failing the third attention check, two were excluded for reporting comprehension challenges in an open-ended text box, and one was removed due to missing data dealt with through listwise deletion. In total, 46 participants were excluded, including 21 in the concealment condition and 25 in the disclosure condition. We pre-registered that we would exclude participants who failed the manipulation check five consecutive times, however no participants did so, so no participants

were excluded for this reason. This left a final analytic dataset of 439 participants. See Table 1

for participant demographics for this and all subsequent studies. Sensitivity analysis in *G*Power*

indicated the obtained sample provided 80% power to detect effects as small as $d = 0.27$ with an

α-level of .05.

Table 1

Demographic Details for Participants in all Studies

Demographic Trait	Study				
	Study 1	Study 2A	Study 2B	Study 2C	Study 3
Sample					
Source	Prolific	Prolific	Prolific	Dept.	Dept.
Sample size (*n*)	439	83 (1310)	687	549	234
Age					
M (years)	27.61	28.00	27.57	19.20	18.93
SD (years)	9.21	9.88	9.81	3.01	2.32
No response (*n*)	0	0	0	1	1
Sex					
Male (%)	55.81%	48.19%	58.22%	28.42%	33.76%
Female (%)	43.96%	51.81%	40.90%	71.40%	65.81%
Other (%)	0.23%	0.00%	0.87%	0.18%	0.43%
No response (*n*)	0	0	0	0	0
Ethnic Origin					
Aboriginal (%)	0.00%	0.00%	0.15%	0.00%	0.00%
African (%)	1.59%	3.61%	2.04%	1.46%	2.56%
Caribbean (%)	0.23%	1.20%	0.15%	1.28%	0.00%
East/Southeast Asian (%)	4.33%	2.41%	1.75%	47.91%	54.70%
European (%)	77.22%	83.13%	82.24%	17.67%	17.95%
Latin American (%)	4.56%	4.82%	5.97%	1.64%	1.28%
Middle Eastern (%)	2.05%	1.20%	1.16%	6.74%	2.99%
Pacific Islander (%)	0.23%	0.00%	0.00%	0.00%	0.00%
South Asian (%)	4.10%	0.00%	1.46%	14.57%	13.68%
Other (%)	1.82%	0.00%	2.47%	1.64%	1.28%
Multiethnic (%)	3.87%	3.61%	2.62%	7.10%	5.56%
No response (*n*)	0	0	0	0	0

Note. "Dept." indicates Psychology department undergraduate pool. Study 2A was a repeated measures design with 1310 observations split between 83 unique participants.

Procedure

The study included two between-subjects conditions wherein a target depicted in a vignette either concealed (concealment condition) or disclosed (disclosure condition) an identity they held. Participants completed the study in a single, online session. After consenting to take part in the study, participants were informed that they would learn about someone through a vignette and were asked to read the vignette carefully before proceeding. Participants were then randomly assigned to a condition and the corresponding vignette. After reading the vignette, participants completed a manipulation check that asked them to identify the content of the vignette from a selection of four options. Participants who answered correctly advanced to the survey measures while participants who answered incorrectly were presented the vignette and manipulation check again. This process repeated until the participant had read the vignette a maximum of five times, at which point they were advanced to the survey measures regardless of their response to the manipulation check (however, no participants failed the manipulation check all five times).[2] Participants then responded to survey measures assessing their perceptions of the target and an attention check (in random order), completed a second attention check, a demographic survey, a third attention check, and finally were asked to provide any final thoughts they had. This and all other protocols presently reported were approved by the appropriate institutional research ethics board and the research reported here conforms to all appropriate ethical standards.

Manipulation

The experimental manipulation consisted of two vignettes. After being informed that they would be introduced to a person named "S," participants in the concealment condition read: "S

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[2] This procedure was implemented to ensure participant comprehension of the vignettes prior to completing the dependent variables, thus preserving data quality. It was arrived at after high rates of manipulation check failures in Studies 1S and 2S in the online supplement. Note however that in studies 1S and 2S, similar patterns of results were found regardless of whether participants who failed the manipulation check were included or excluded.

holds an identity. Other people do not know that S holds this identity, because S conceals it from them." In the disclosure condition, participants read: "S holds an identity. Other people know that S holds this identity, because S discloses it to them." The use of a single initial instead of a complete name was chosen to avoid inadvertently providing participants with unintentional cues about the target.

Measures

Descriptive statistics for all key measures and internal reliability for multi-item measures for this and all subsequent studies are summarized in Table 2.

Manipulation Check. To assess whether the participants had understood the content of the vignette, we administered a single-item manipulation check: "You were just introduced to a person named S. What did S do?" with the response options "Concealed an identity from other people," "Disclosed an identity to other people," "Both of these things," and "Neither of these things."

Trait Ratings. Participants responded to the same prompt (i.e., "How much would you describe S—the person you read about—with each of the following traits?") 12 times in random order, once each for the traits "honest," "trustworthy," "sincere," "likeable," "warm," "friendly," "competent," intelligent," "skilled," "authentic," "phony," and "liar." Participants responded on 7-point scales anchored by "0 Not at all" and "6 Extremely." These 12 ratings included traits commonly used to assess targets' perceived morality, sociability, and competence.

Morality. We took a mean of participants' ratings for the "honest," "trustworthy" and "sincere" items as our index of morality (Leach et al., 2007).

Sociability. We calculated a mean of the "likeable," "warm," and "friendly" items as our measure of sociability (Leach et al., 2007).

Competence. We took a mean of the "competent," intelligent," and "skilled" to measure competence (Leach et al., 2007).

Other traits. The remaining three items were only administered as single-item measures and are reviewed in the online supplement.

Feeling Thermometer. Participants completed a single-item measure of their attitudes towards the target. We used a widely used measure of attitudes: a feeling thermometer. Participants responded to the prompt, "Please rate how warm or cold you feel toward S." on a 7-point scale anchored by response options "-3 Very cold" and "3 Very warm."

Table 2

Descriptive Statistics for Key Measures

Measure	Study				
	Study 1	Study 2A	Study 2B	Study 2C	Study 3
Morality (Leach et al., 2007)					
M	2.59	3.15	3.18	2.35	2.00
SD	1.53	1.46	1.38	1.29	1.18
α	.89	.93	.87	.89	.81
Sociability (Leach et al., 2007)					
M	2.82	3.32	3.31	3.19	2.85
SD	1.26	0.99	1.03	1.17	1.01
α	.90	.89	.85	.90	.83
Competence (Leach et al., 2007)					
M	3.34	3.43	3.28	3.24	3.84
SD	1.06	0.94	0.96	1.06	0.92
α	.84	.86	.84	.88	.76
Feeling thermometer					
M	-0.08	0.32	0.36	0.28	-0.24
SD	1.25	1.08	1.13	1.22	1.15

First Attention Check. Participants responded to the prompt, "For this question, please respond "Strongly agree"" posed on the same scale as the trait ratings.

Second Attention Check. After completing all the survey measures, participants were asked to recall the content of the vignette they had read at the start of the study, using the same prompt and response options as the previously administered manipulation check.

Demographics. Participants reported their age, sex and ethnic origin.

Third Attention Check. Participants read the prompt, "Lastly, please answer this final question honestly. You will receive compensation no matter how you answer. For us researchers, it is important to have reliable answers to our questions. Participants sometimes don't pay attention or focus enough on completing this study. This is not a problem as long as we know! Should we use your data?" and were presented with response options "YES: I paid attention and answered carefully. Use my data!" and "NO: Don't use my data. I admit this to help the researchers out, and I am still going to be compensated."

Results

All analyses for this and subsequent studies were performed using R 4.0.4 (R Core Team, 2020). Homogeneity of variance was assessed for each model prior to analysis. Student's t-tests were computed where that assumption was met and Welch t-tests were conducted where it was not. Descriptive statistics for this and all studies were generated using the *emmeans* and *psych* packages (Lenth, 2020; Revelle, 2018).

Morality

A Welch two-sample t-test was conducted to test the effect of condition on perceptions of morality. Participants viewed the target who concealed as less moral ($M = 1.74$, $SE = 0.08$) than the target who disclosed ($M = 3.49$, $SE = 0.09$; $t(404.41) = -14.54$, $p < .001$, $d = -1.39$; see Figure 1 for all Study 1 results).

Sociability

A Welch two-sample t-test was conducted. Participants in the concealment condition viewed the target as less sociable ($M = 2.38$, $SE = 0.08$) than participants in the disclosure condition ($M = 3.29$, $SE = 0.08$; $t(403.29) = -8.04$, $p < .001$, $d = -0.77$).

Competence

A Student's two-sample t-test was conducted. Participants in the concealment condition viewed the target as more competent (M = 3.45, $SE = .07$) than did participants in the disclosure condition ($M = 3.22$, $SE = 0.07$; $t(437) = 2.25$, $p = .025$, $d = 0.21$).

Feeling Thermometer

A Student's t-test revealed that participants in the concealment condition had less warm feelings towards the target ($M = -0.53$, $SE = 0.08$) than did participants in the disclosure condition ($M = 0.38$, $SE = 0.08$; $t(437) = -8.13$, $p < .001$, $d = -0.78$).

Figure 1

Study 1 Results
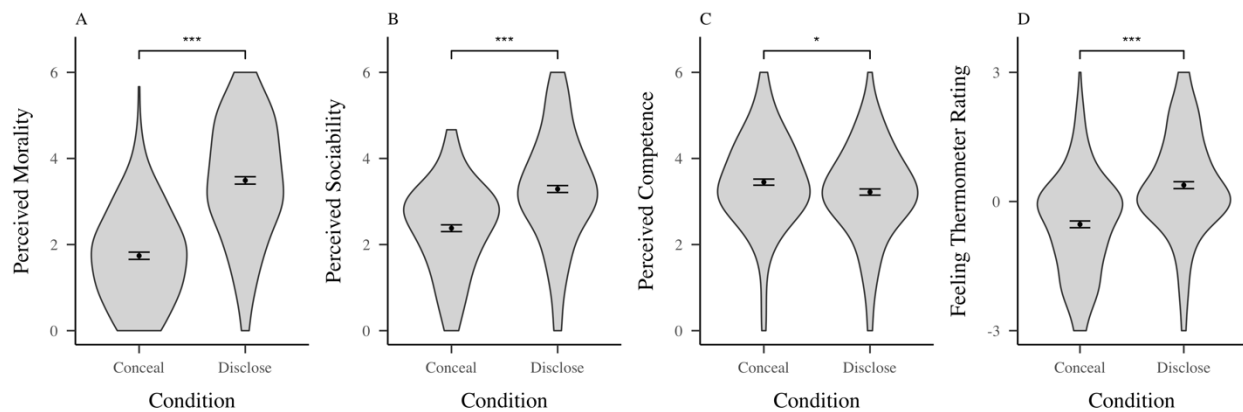
Note. Points and error bars represent condition means and standard errors. $^{ns}p \geq .05$. $*p < .05$. $**p < .01$. $***p < .001$.

Discussion

People who conceal were rated less morally and less positively than people who disclose. Exploratory analyses revealed that people who conceal were viewed as less sociable but more competent. Together, these results support the notion that targets face social costs for concealing.

Study 2A

Because the discovery of concealment simultaneously reveals the act of concealment and the concealed identity, consequences of concealment are important to distinguish from, and interpret in the context of, the concealed identity. Study 2A aimed to replicate Study 1's effects on morality, sociability, and feeling thermometer ratings and test the role of target identity by portraying concealment of a range of both stigmatized (e.g., "gay") and non-stigmatized (e.g., "straight") targets. Tests on competence and tests for the role of target identity and target stigma were exploratory.

Method

Participants

We conducted a simulation-based power analysis in *R* to determine the sample size required to simultaneously detect our nine primary effects following the procedure recommended by (Le Forestier et al., under review). We simulated power to detect effects as small as $R^2 = .13$ for the effects of condition on the three primary dependent variables (i.e., morality, sociability, and feeling thermometer ratings), an effect size informed by the smallest effects in Study 1. We simulated $R^2 = .02$ for amount of variance explained by the random slope for condition within target identity, and $R^2 = .06$ for the effect of the interaction between condition and target stigma on the three primary dependent variables. Those small effect sizes were chosen as conservative estimates. Effects on competence were not included in the power analysis, as we did not have strong predictions for their directions or significance. Because the repeated-measures design

facilitated achieving high power, we aimed to achieve 95% power instead of 80% and continued

to use an α-level of .05. This procedure yielded a required sample of 75 participants, which we

rounded up by 10% to 83 participants to account for probable exclusions.

Ultimately, we recruited 84 participants through Prolific who were pre-screened to not

have participated in any previous studies in this line of work. Participants were paid £1.25 for

participating in a 15-minute study. One participant was removed for failing the attention check.

No participants indicated a lack of comprehension, so no participants were excluded for that

reason. One additional participant failed all three consecutive manipulation checks for one

vignette, so their data for that vignette only was excluded. Finally, missing data dealt with

through listwise deletion at the level of the target led to the exclusion of 17 observations. This

left a final analytic sample of 1310 observations divided among 83 participants. Sensitivity

analysis conducted through simulation in R indicated that the obtained sample provided 80%

power for effects as small as $b = 0.08$ ($R_\beta^2 = .01$) with $\alpha = .05$.

Procedure

Study 2A used a two (concealment condition: conceal, disclose) by eight (target identity

condition: gay, straight, person in their seventies, person in their thirties, Muslim, Christian,

exotic dancer, doctor) within-subjects design. These eight identities were stigmatized and non-

stigmatized groups from four categories of concealable identities (i.e., sexual orientation, age,

religion, and occupation. Stigmatized identities (i.e., gay, Muslim, person in their seventies, and

exotic dancer) were drawn from previous research on stigmatized concealable identities

(Pachankis et al., 2018) and each represent identities well-documented as broadly stigmatized in

Western countries[3] (Ahmad & Bhugra, 2010; Charlesworth & Banaji, 2019; Herek, 2000; Kite et al., 2005; Ogan et al., 2014; Strabac & Listhaug, 2008; Thompson & Harred, 1992). Non-stigmatized identities were high-status counterparts to each of the stigmatized groups (i.e., straight, Christian, person in their thirties, and doctor).

The procedure was the same as that for Study 1 with the following exceptions: Participants read vignettes and completed survey measures for all 16 conditions in randomized order; the post-vignette manipulation checks only repeated a maximum of three times instead of five; and only one attention check was administered. Additionally, a "practice" vignette in which a target concealed their British identity was administered before the 16 randomized test vignettes to reduce order effects.

Manipulation

One at a time and in random order following the practice vignette, participants learned about 16 different targets through separate vignettes. In all cases, the manipulation took the form of: "[Initial]" is [identity]. Other people [know/do not know] that [Initial] is [identity], because [Initial] [conceals it from/discloses it to] them." Initials were 16 common first-letters in English-language words (i.e., "T", "A", "O", "I", "S", "W", "C", "B", "P", "H", "F", "M", "D", "R", E", "L", and "N"). Targets were individuals identified to have one of the 16 previously-described concealable identities. Targets and initials were pseudo-randomly matched by sampling without replacement from lists of targets and initials in *R*.

Measures

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[3] All studies for which data were collected on Prolific consisted primarily of participants with European ethnic origin (see Table 1). All participants in studies which recruited from the Psychology Department undergraduate pool were students at a large Canadian institution. Defining groups as typically stigmatized versus not on the basis of Western conventions thus seemed appropriate.

The same measures as in Study 1 were administered with two exceptions: only the third attention check from Study 1 was administered here, and only the nine trait ratings corresponding to (Leach et al., 2007) morality, sociability, and competence measures were administered.

Results

Our analytic approach in this study was to model targets' identities as random effects and to assess the variance accounted for by their random slopes to assess whether the relationship between concealment and each of our dependent variables would be different depending on the target's identity. We did so through nested model comparison, by comparing models that did and did not specify random slopes for targets' identities. Significant differences between these models would indicate that significant variance was accounted for by the random slopes for target identity and consequently that the effect of concealment on our dependent variables varied according to the identity being concealed. Multilevel models were run using the *lme4* and *lmerTest* packages (Bates et al., 2015; Kuznetsova et al., 2017) and effect sizes were calculated using the *r2beta* function from the *r2glmm* package in R (Jaeger, 2017).

Effect of Target Identity

To assess whether the target's identity impacted the effects of condition on each of our dependent variables, we compared two sets of multilevel models. The full models specified a fixed effect of experimental condition and random slopes and intercepts for condition within participant and within target identity. The comparison models dropped the random slope for condition within target identity. Each of these two models were constructed four times each, once for each dependent variable (see Table 3 for outputs for full and reduced models).

In all four cases, the full model did not significantly outperform the comparison model (morality model comparison: $\chi^2(2) = 1.44$, $p = .488$; sociability model comparison: $\chi^2(2) = 2.33$, $p = .312$; competence model comparison: $\chi^2(2) = 0.24$, $p = .887$; feeling thermometer model comparison: $\chi^2(2) = 1.01$, $p = .604$), indicating that the target identity did not significantly impact the relationship between condition and the dependent variables (see Figure 2 for random slopes for condition within target identity in the full models).

Table 3

*Summary of Full and Reduced Model Outputs From Study 2A*

Model and Term	Full Models						Reduced Models					
Morality												
Fixed Effects	b	SE	df	t	p	R^2_β	b	SE	df	t	p	R^2_β
Intercept	2.21	0.12	74.97	18.48	< .001		2.21	0.12	76.14	18.07	< .001	
Condition	1.90	0.16	78.79	12.12	< .001	.42	1.90	0.15	80.97	12.27	< .001	.42
Random Effects	Var	SD					Var	SD				
P Intercept	0.98	0.99					0.98	0.99				
P Slope	1.84	1.36					1.84	1.36				
T Intercept	0.01	0.11					0.02	0.13				
T Slope	0.00	0.07										
Residual	0.45	0.67					0.46	0.68				
Sociability												
Fixed Effects	b	SE	df	t	p	R^2_β	b	SE	df	t	p	R^2_β
Intercept	2.97	0.09	47.49	33.09	< .001		2.97	0.09	48.91	32.20	< .001	
Condition	0.70	0.09	52.42	7.40	< .001	.13	0.70	0.09	80.88	7.90	< .001	.13
Random Effects	Var	SD					Var	SD				
P Intercept	0.46	0.68					0.46	0.67				
P Slope	0.54	0.73					0.54	0.73				
T Intercept	0.02	0.12					0.02	0.14				
T Slope	0.01	0.09										
Residual	0.39	0.63					0.40	0.63				
Competence												
Fixed Effects	b	SE	df	t	p	R^2_β	b	SE	df	t	p	R^2_β
Intercept	3.28	0.17	9.19	19.50	< .001		3.28	0.17	9.31	19.16	< .001	
Condition	0.30	0.05	72.06	5.66	< 001	.03	0.30	0.05	81.07	5.70	< .001	.03
Random Effects	Var	SD					Var	SD				
P Intercept	0.30	0.55					0.30	0.55				
P Slope	0.13	0.35					0.13	0.35				
T Intercept	0.19	0.44					0.20	0.45				
Target Slope	0.00	0.02										
Residual	0.40	0.63					0.40	0.63				
Feeling Therm												
Fixed Effects	b	SE	df	t	p	R^2_β	b	SE	df	t	p	R^2_β

Intercept	-0.04	0.09	29.83	-0.46	.647		-0.04	0.10	29.24	-0.44	.666	
Condition	0.73	0.10	70.84	7.54	< .001	.12	0.73	0.09	80.86	7.68	< .001	.12
Random Effects	*Var*	*SD*					*Var*	*SD*				
P Intercept	0.37	0.60					0.37	0.60				
P Slope	0.57	0.76					0.57	0.75				
T Intercept	0.02	0.15					0.03	0.17				
T Slope	0.00	0.05										
Residual	0.65	0.81					0.65	0.81				

Note. "P" indicates "Participant" and "T" indicates "Target" in the random effects labels

Figure 2

Random Slopes for Condition Within Target Identity from Study 2A Full Models
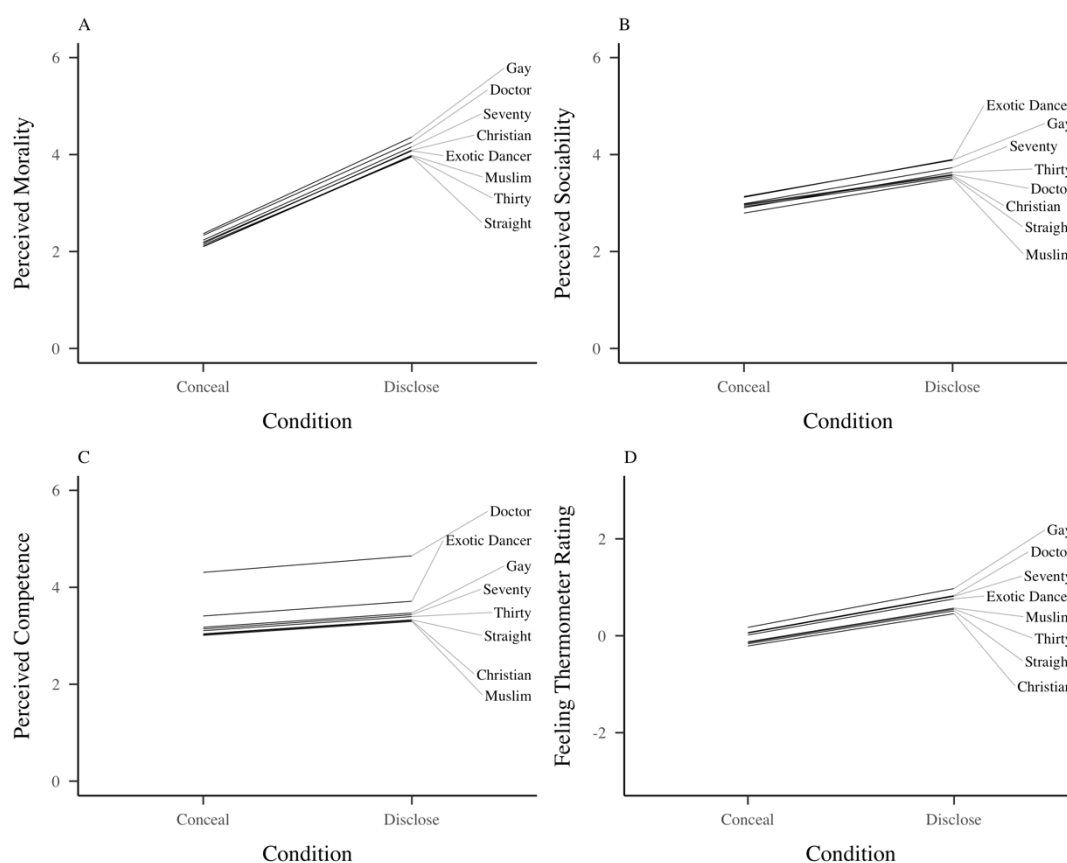
Effects of Target Concealment

Because the random intercept for identity did not significantly improve the models, results from the reduced models are reported going forward. People who concealed were viewed as less moral (*M* = 2.21, *SE* = 0.12), sociable (*M* = 2.97, *SE* = 0.09), and competent (*M* = 3.28,

$SE = 0.17$) and were viewed less warmly on the feeling thermometer ($M = -0.04$, $SE = 0.10$) than were people who disclosed (morality: $M = 4.10$; $SE = 0.10$; sociability: $M = 3.67$; $SE = 0.09$; competence: $M = 3.58$ $SE = 0.17$; feeling thermometer: $M = 0.68$ $SE = 0.09$).

Effects of Target Concealment and Stigma

Next, we collapsed the target identities into stigmatized (i.e., gay, person in their seventies, Muslim, and exotic dancer) and non-stigmatized (i.e., straight, person in their thirties, Christian, and doctor) categories to investigate the effect of target stigma on the relationship between concealment condition and our dependent variables. To assess this, we ran multilevel models specifying fixed effects of condition, target stigma, and their interaction and the same random effects as the previous reduced models.

Morality. Concealment condition had a significant effect on perceptions of morality, $F(1, 81.00) = 150.58$, $p < .001$, $R_\beta^2 = .25$. There was no significant effect of target stigmatization, $F(1, 6.00) = 0.39$, $p = .556$, $R_\beta^2 = .00$). There was a barely-significant and trivially small condition by stigma interaction, $F(1, 1138.10) = 4.15$, $p = .042$, $R_\beta^2 = .00$. Tukey-adjusted pairwise comparisons revealed that targets in the concealment condition were viewed as less moral than targets in the disclosure condition, but this effect was slightly more pronounced for stigmatized targets (concealment condition $M = 2.20$, $SE = 0.14$; disclosure condition $M = 4.17$, $SE = 0.12$; $t(90.67) = -12.41$, $p < .001$) than for non-stigmatized targets (concealment condition $M = 2.21$, $SE = 0.14$; disclosure condition $M = 4.03$, $SE = 0.12$; $t(90.67) = -11.45$, $p < .001$; see Figure 3 for Study 2A results).

Sociability. Condition also had a significant effect on perceptions of sociability, $F(1, 80.89) = 62.40$, $p < .001$, $R_\beta^2 = .05$, while target stigma did not, $F(1, 6.00) = 1.73$, $p = .237$, $R_\beta^2 = .00$. There was again a trivially small condition by stigma interaction, $F(1, 1137.95) = 7.65$, $p = $

.006, $R_\beta^2 = .00$, such that participants in the disclosure condition were viewed as more sociable than participants in the concealment condition, but like for morality, the effect of condition was slightly more pronounced for stigmatized targets (concealment condition $M = 2.99$, $SE = 0.11$; disclosure condition $M = 3.78$, $SE = 0.11$; $t(107.78) = -8.36$, $p < .001$) than non-stigmatized targets (concealment condition $M = 2.96$, $SE = 0.11$; disclosure condition $M = 3.56$, $SE = 0.11$; $t(107.78) = -6.34$, $p < .001$).

Competence. Condition had a significant effect on perceptions of competence, $F(1, 81.07) = 32.47$, $p < .001$, $R_\beta^2 = .01$, such that targets who concealed were viewed as less competent ($M = 3.28$, $SE = 0.18$) than targets who disclosed ($M = 3.58$, $SE = 0.18$), unlike Study 1. Neither target stigma ($F(1, 6.00) = 0.33$, $p = .585$, $R_\beta^2 = .01$) nor the concealment condition by stigma interaction ($F(1, 1138.14) = 0.91$, $p = .341$, $R_\beta^2 = .00$) were significant.

Feeling Thermometer. Condition had a significant effect on feeling thermometer ratings, $F(1, 80.86) = 58.91$, $p < .001$, $R_\beta^2 = .05$, such that targets who concealed were viewed less warmly ($M = -0.04$, $SE = 0.09$) than targets who disclosed ($M = 0.68$, $SE = 0.09$). Neither target stigma ($F(1, 6.00) = 2.54$, $p = .162$, $R_\beta^2 = .00$) nor the concealment condition by stigma interaction ($F(1, 1137.92) = 1.47$, $p = .225$, $R_\beta^2 = .00$) were significant.

Figure 3

Study 2A Results
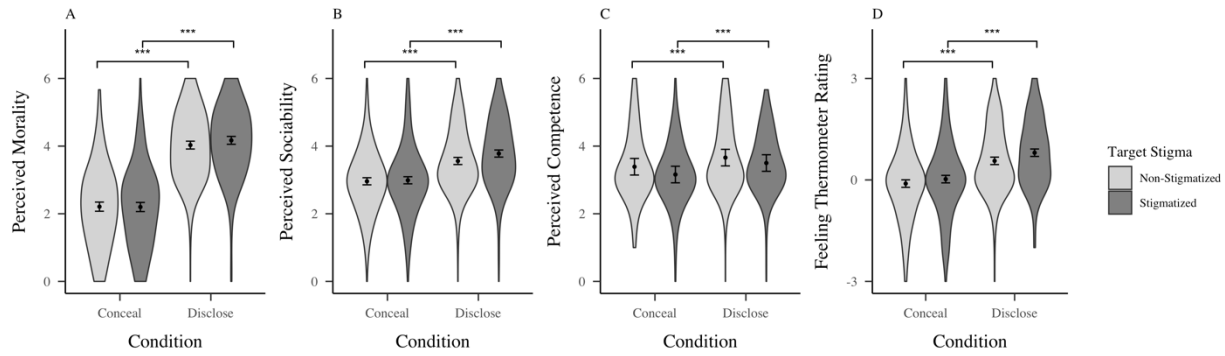
Note. Points and error bars represent condition means and standard errors. $^{ns}p \geq .05$. $*p < .05$. $**p < .01$. $***p < .001$.

Study 2B

Study 2B aimed to replicate Study 2A's findings on perceptions of morality, sociability, and feeling thermometer ratings in a between-subjects design. Competence analyses were exploratory, as were analyses testing the effects of target identity and target identity stigma.

Method

Participants

We simulated power in *R* to simultaneously detect main effects of concealment condition on morality ($R^2 = .20$), sociability ($R^2 = .11$) and feeling thermometer ratings ($R^2 = .11$), informed by conservative estimates of effects from previous studies, as well as concealment condition by target stigma interactions on the same three dependent variables ($R^2 = .02$ each, a small effect size). Again, we did not include effects on perceptions of competence as we did not have predictions for the direction or significance of those effects. We aimed to achieve 80% simultaneous power with an α-level of .05. This procedure yielded a target sample size of 504 participants. However, to facilitate quantitative comparisons with data from Study 2A, we increased the target above that to match the number of observations per condition in Study 2A, to

83 participants per condition (i.e., 664 participants in total). We further increased that figure by

10% to a total recruitment goal of 730 to account for probable exclusions.

Ultimately, 735 participants were recruited from Prolific. Participants were pre-screened

to not have previously participated in any studies in this line of work and were paid £0.25 for

participating in a 3-minute study. Of them, 24 were excluded for failing the first attention check

and 21 were removed for failing the second. Two additional participants failed all three

consecutive manipulation checks and were excluded. Finally, one participant was removed due

to missing data dealt with through listwise deletion. No participants indicated lacking

comprehension. The final analytic sample size was 687 participants after 48 total exclusions (14

from the stigmatized concealment cell, 11 from the non-stigmatized concealment cell, 9 from the

stigmatized disclosure cell, and 14 from the non-stigmatized disclosure cell). Sensitivity analysis

in *G*Power* indicated this obtained sample provided 80% power for effects as small as $f = .11$ (d

$= 0.22$ or $R^2 = .01$) with $\alpha = .05$.

Procedure

Study 2B used a two (concealment condition: conceal, disclose) by four (target identity

condition: gay, straight, Muslim, Christian) between-subjects design. Four identities were used

instead of the eight used in Study 2A to control the sample size requirements of the between-

subjects design. The procedure was the same as that for Study 1 except the manipulation check

only repeated up to three times, and only the two attention checks were administered.

Manipulation

The text of the vignette manipulation was the same as that used in Study 2A except for

that all targets were identified with the initial "S."

Measures

The same measures as in Study 2A were administered, with the addition of participant religion and sexual orientation, which were measured in the present demographic survey.

Results

Effect of Concealment Condition

The first set of analyses were conducted collapsing across identity condition to assess the effect of concealment condition only. The analytic procedure followed that of Study 1.

Morality. A Student's two-sample t-test was conducted to test the effect of condition on perceptions of morality. Participants viewed the target who concealed as less moral ($M = 2.49$, $SE = 0.07$) than the target who disclosed ($M = 3.86$, $SE = 0.06$; $t(685) = -14.91$, $p < .001$, $d = -1.14$; see Figure 4 for Study 2B results).

Sociability. A Welch two-sample t-test was conducted to test the effect of condition on perceptions of sociability. Participants viewed the target who concealed as less sociable ($M = 3.16$, $SE = 0.05$) than the target who disclosed ($M = 3.46$, $SE = 0.05$; $t(678.53) = -3.87$, $p < .001$, $d = -0.29$).

Competence. A Student's two-sample t-test revealed no significant difference in perceived competence between the target who concealed ($M = 3.35$, $SE = 0.05$) and the target who disclosed ($M = 3.21$, $SE = 0.05$; $t(685) = 1.92$, $p = .056$, $d = 0.15$).

Feeling Thermometer. A Student's two-sample t-test revealed no significant difference in feeling thermometer ratings between the target who concealed ($M = 0.31$, $SE = 0.06$) and the target who disclosed ($M = 0.42$, $SE = 0.06$), $t(685) = -1.20$, $p = .229$, $d = -0.09$.

Figure 4

Study 2B Results
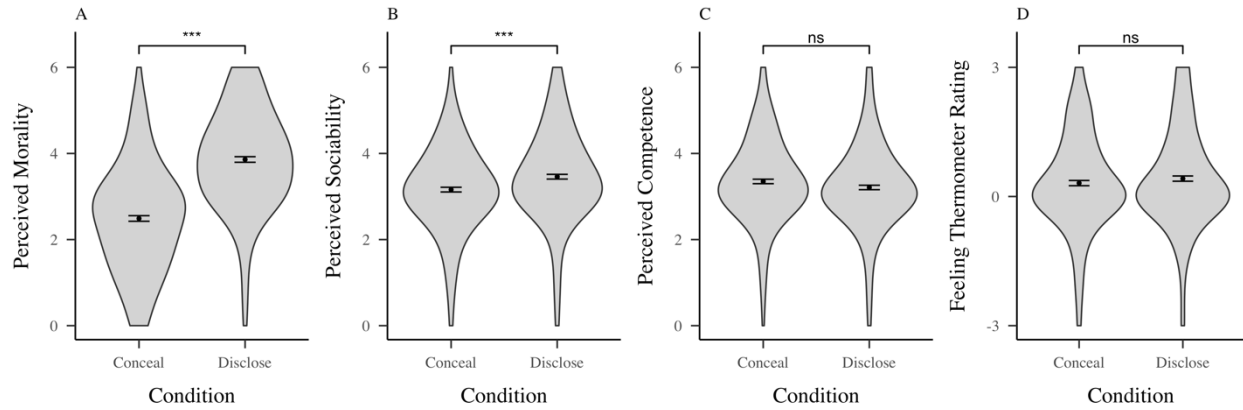
Note. Points and error bars represent condition means and standard errors. $^{ns}p \geq .05$. $*p < .05$.

$**p < .01$. $***p < .001$.

Effect of Concealment Condition and Target Identity

Next, we assessed whether the target's identity moderated the effect of condition on the dependent variables. Consistent with Study 2A, target identity did not impact the relationship between condition and any of the four dependent variables. See Table 4 for full result summaries.

Table 4

Summary of concealment condition by target identity models

Predictor	df	F	p	η_p^2
Morality model				
Concealment	1, 679	229.03	< .001	.25
Target identity	3, 679	8.56	< .001	.04
Concealment × Target identity	3, 679	0.52	.671	.00
Sociability model				
Concealment	1, 679	15.17	< .001	.02
Target identity	3, 679	5.36	.001	.02
Concealment × Target identity	3, 679	0.26	.856	.02
Competence model				
Concealment	1, 679	3.69	.055	.01
Target identity	3, 679	2.21	.085	.01
Concealment × Target identity	3, 679	0.87	.458	.00
Feeling thermometer model				
Concealment	1, 679	1.48	.224	.00
Target identity	3, 679	6.29	< .001	.03

Concealment × Target identity	3, 679	0.92	.432	.00

Effect of Concealment Condition and Target Stigma

Next, we collapsed the target identities into stigmatized (i.e., gay and Muslim) and non-stigmatized (i.e., straight and Christian) categories to investigate the effect of target stigma on the relationship between concealment condition and our dependent variables in the same way as in Study 2A. Target stigma did not moderate the relationship between concealment condition and any of our dependent variables. See Table 5 for full result summaries.

Table 5

Summary of concealment condition by target stigmatization models

Predictor	df	F	p	η_p^2
Morality model				
Concealment	1, 683	224.62	< .001	.25
Target stigma	1, 683	8.74	.003	.01
Concealment × Target stigma	1, 683	0.88	.347	.00
Sociability model				
Concealment	1, 683	15.16	< .001	.02
Target stigma	1, 683	12.26	< .001	.02
Concealment × Target stigma	1, 683	0.02	.878	.00
Competence model				
Concealment	1, 683	3.70	.055	.01
Target stigma	1, 683	5.75	.017	.01
Concealment × Target stigma	1, 683	1.66	.199	.00
Feeling thermometer model				
Concealment	1, 683	1.47	.226	.00
Target stigma	1, 683	9.55	.002	.01
Concealment × Target stigma	1, 683	0.02	.894	.00

Study 2C

To probe the finding that target identities do not generally moderate the effects of concealment and to reflect identity concealment as it is often enacted in practice, Study 2C

manipulated the identity being concealed and whether an outgroup identity was claimed in its

place. We did not have a priori predictions for any of the tests in the present study.

Method

Participants

We simulated power in *R* for 80% power to simultaneously detect interaction effects

between target stigmatized/non-stigmatized group status and whether or not an outgroup identity

was claimed on our three primary dependent variables with an α-level of .05. We used $R^2 = .02$, a

small effect, as the effect size input for all three interactions and did not specify effect sizes for

main effects, as we had no predictions for them and they were not the focus of our primary tests.

This procedure yielded a desired sample size of 540 participants, which we increased by 10% to

595 in anticipation of probable exclusions.

Ultimately, 610 unique participants were recruited through a Psychology department

subject pool and completed the study in exchange for partial course credit for a 10-minute study.[4]

One participant was excluded for failing the manipulation check all three times, 37 participants

were excluded for failing the first attention check, and 20 participants were excluded for failing

the second attention check. No participants indicated comprehension challenges at the end of the

study, so none were excluded for this reason. Finally, three participants were excluded due to

missing data dealt with through listwise deletion. This left a final, analytic sample of 549

participants after 61 total exclusions (6 in the gay-did not claim an outgroup identity cell, 8 in the

gay-claimed an outgroup identity cell, 25 in the straight-did not claim an outgroup identity cell,

and 22 in the straight-claimed an outgroup identity cell). Sensitivity analysis in *G*Power*

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[4] Some participants completed the study more than once. Data from participants' first completion were included and data from subsequent attempts were excluded.

indicated the obtained sample provided 80% power to detect effects as small as $f = .12$ ($d = 0.24$ or $R^2 = .01$) at $\alpha = .05$.

Procedure

Study 2C used a two (target identity condition: stigmatized (gay), non-stigmatized (straight)) by two (claimed outgroup identity condition: claimed, did not claim) between-subjects design, such that stigmatized targets who claimed an outgroup identity claimed a non-stigmatized identity (straight) and non-stigmatized targets who claimed an outgroup identity claimed a stigmatized identity (gay). The procedure was the same as that for Study 2B and like previous studies, participants completed the study in a single online session.

Manipulation

Participants read a vignette that either identified the participant as straight or gay, and either involved them simply concealing an identity or concealing an identity by claiming an outgroup identity. In the no outgroup identity condition, the vignettes took the form of: "S is [identity]. Other people do not know that S is [identity], because S conceals it from them." In the outgroup identity condition, the vignettes took the form of: "S is [identity]. Other people do not know that S is [identity], because S conceals it from them and tells them that they are [outgroup identity] instead."

Measures

Participants completed the same measures as in Study 2B and one additional exploratory item reviewed in the online supplement.

Results

Morality

There were significant effects on morality of targets' actual identities ($F(1, 545) = 69.44$, $p < .001$, $\eta_p^2 = .11$), whether or not they claimed an outgroup identity ($F(1, 545) = 56.09$, $p < .001$, $\eta_p^2 = .09$), and the interaction between these ($F(1, 545) = 18.77$, $p < .001$, $\eta_p^2 = .03$) on participants' perceptions of target morality. Tukey-adjusted pairwise comparisons revealed that while gay targets who concealed by claiming to be straight were not viewed as significantly more or less moral ($M = 2.55$, $SE = 0.10$) than gay targets who simply concealed ($M = 2.89$, $SE = 0.09$, $t(545) = 2.53$, $p = .057$), straight targets who concealed by claiming to be gay were viewed as less moral ($M = 1.31$, $SE = 0.10$) than straight targets who simply concealed ($M = 2.50$, $SE = 0.10$, $t(545) = 8.23$, $p < .001$; see Figure 5 for Study 2C results).

Sociability

There were significant effects of targets' actual identities ($F(1, 545) = 81.72$, $p < .001$, $\eta_p^2 = .13$), whether or not they claimed an outgroup identity ($F(1, 545) = 8.81$, $p = .003$, $\eta_p^2 = .02$), and the interaction between these ($F(1, 545) = 13.90$, $p < .001$, $\eta_p^2 = .02$) on participants' perceptions of target sociability. Mirroring the morality results, straight targets who concealed by claiming to be gay were viewed as less sociable ($M = 2.43$, $SE = 0.10$) than straight targets who simply concealed ($M = 3.07$, $SE = 0.10$, $t(545) = 4.75$, $p < .001$) whereas gay targets who concealed by claiming to be straight were not viewed as more or less sociable ($M = 3.60$, $SE = 0.09$) than gay targets who simply concealed ($M = 3.56$, $SE = 0.09$, $t(545) = -0.37$, $p = .983$).

Competence

There were significant effects of targets' actual identities ($F(1, 545) = 31.02$, $p < .001$, $\eta_p^2 = .05$), their claimed identities ($F(1, 545) = 6.65$, $p = .010$, $\eta_p^2 = .01$), and the interaction between these ($F(1, 545) = 15.26$, $p < .001$, $\eta_p^2 = .03$) on perceptions of target competence. Similar to the results for both morality and sociability, straight targets who concealed by claiming to be gay

were viewed as less competent ($M = 2.69$, $SE = 0.09$) than straight targets who simply concealed ($M = 3.28$, $SE = 0.09$; $t(545) = 4.62$, $p < .001$) whereas gay targets who concealed by claiming to be straight were neither viewed as more or less competent ($M = 3.51$, $SE = 0.08$) than gay targets who simply concealed ($M = 3.42$, $SE = 0.08$; $t(545) = -0.78$, $p = .866$).

Feeling Thermometer

There were significant effects of targets' actual identities ($F(1, 545) = 68.48$ $p < .001$, $\eta_p^2 = .11$), whether or not they claimed an outgroup identity ($F(1, 545) = 6.35$, $p = .012$, $\eta_p^2 = .01$), and the interaction between these ($F(1, 545) = 10.40$, $p = .001$, $\eta_p^2 = .02$) on participants' attitudes towards the target. Straight targets who concealed by claiming to be gay were viewed less positively ($M = -0.45$, $SE = 0.10$) than straight targets who simply concealed ($M = 0.13$, $SE = 0.10$; $t(545) = 4.08$, $p < .001$) whereas gay targets who concealed by claiming to be straight were not viewed more or less positively ($M = 0.67$, $SE = 0.09$) than gay targets who simply concealed ($M = 0.63$, $SE = 0.09$; $t(545) = -0.35$, $p = .985$).

Figure 5

Study 2C Results
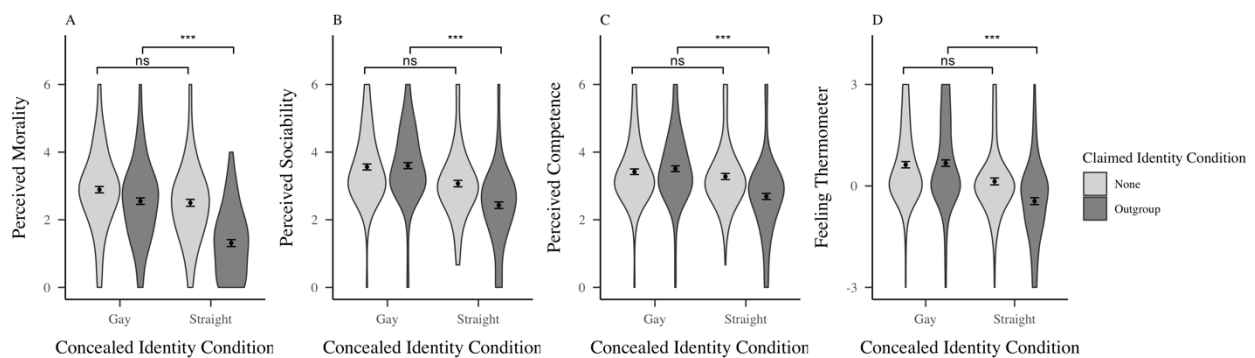
Note. Points and error bars represent condition means and standard errors. $^{ns}p \geq .05$. $^*p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Discussion

We generally replicated Study 1's effects; people who concealed were viewed as less moral and sociable (Studies 2A and 2B). They were sometimes viewed less positively (Study 2A), but not reliably (Study 2B). Exploratory tests of perceptions of competence yielded mixed results.

Studies 2A and 2B tested interactive effects of concealment and target identity. We did not find evidence that focal identity or stigmatization influenced effects of concealment. To probe this, Study 2C tested whether people who concealed and claimed an outgroup identity were appraised differently depending on the stigmatization of the target's actual and claimed identities. Non-stigmatized targets were perceived more negatively on all outcomes when they claimed a stigmatized identity than when they did not. Stigmatized targets were perceived similarly regardless. One explanation may be that non-stigmatized people claiming stigmatized identities are viewed as trying to claim advantages to which they are not entitled, whereas the same may not be true for stigmatized targets. Study 3 tested the effects of such perceived motivations.

As for the role of target identity stigmatization, an important note is that the present studies were not designed to test the relative stigmatization of different groups. We asserted stigmatization—rather than testing it—on the basis of substantial previous literature (e.g., Ahmad & Bhugra, 2010; Charlesworth & Banaji, 2019; Herek, 2000; Kite et al., 2005; Ogan et al., 2014; Pachankis et al., 2018; Strabac & Listhaug, 2008; Thompson & Harred, 1992). Additionally, all targets in all three studies engaged in explicit identity management (i.e., either explicitly disclosed or concealed an identity). This behavior may represent a violation of normative behavior expectations coming from members of non-stigmatized groups, as they do

not typically have cause to engage in explicit identity management. Thus, readers should not infer how stigmatized one group is in general relative to another on the basis of these data.

Study 3

One reason perceivers may penalize people who conceal may be that they ascribe nefarious motives to concealment. Presently, we manipulated targets' stated motivations for concealing. We did not have directional predictions for the tests in this study.

Method

Participants

We conducted a simulation-based power analysis in *R* and determined that 235 participants were needed for 80% power to simultaneously detect the effects of condition on our three primary dependent variables with an α-level of .05. We used $d = .50$ as the effect size for the effect of condition on perceptions of morality, and $d = .30$ as the effect size for the effect of condition on perceptions of sociability and feeling thermometer ratings. We increased this figure by 10% to account for probable exclusions for a final recruitment goal of 259 participants.

Ultimately, 259 unique participants were recruited through a departmental pool and participated in exchange for partial course credit for a 10-minute study.[5] Two participants were excluded for failing the manipulation check all three times, nine participants were excluded for failing the first attention check, 13 participants were excluded for failing the second attention check, and one participant was excluded for indicating lack of comprehension in the open-ended prompt at the end of the study. After these exclusions, there were no missing data on the key variables, leaving a final, analytic dataset of 234 participants after 25 total exclusions (11 from the gain advantage condition, 4 from the discrimination condition, and 10 from the no motivation

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[5] Duplicate completions were dealt with in the same was as in Study 2C.

condition). Sensitivity analysis in *G*Power* indicated that the obtained sample provided 80%

power to detect effects of $f = .20$ ($d = 0.40$ or $R^2 = .04$) with $\alpha = .05$.

Procedure

This study manipulated the target's perceived motivation for concealing between subjects

by using vignettes that either depicted a common motivation that stigmatized members conceal

(i.e., to avoid discrimination), a potential reason that some non-stigmatized people may conceal

(i.e., to gain advantages to which they would otherwise have no claim), or that did not specify a

motivation. The procedure was the same as that for Study 2C and took place online.

Manipulation

Participants read a vignette in the form of: "S holds an identity. Other people do not

know that S holds this identity, because S conceals it from them…" completed either by "…to

avoid facing prejudice and discrimination" (discrimination condition), "…to obtain special

advantages or recognition" (advantage condition), or "…to prevent them from finding out about

it" (no motivation condition).

Measures

Participants completed the same measures as in Study 2B[6] in addition to measures of

social dominance orientation (Pratto et al., 1994), right wing authoritarianism (Zakrisson, 2005),

assumed target identity, and political ideology, which were administered for exploratory

purposes and are reviewed in the online supplement.

Results

Morality

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[6] Due to coding errors, the feeling thermometer's Study 3 response scale was "Very cold"-"Very warm" instead of from "Extremely cold" to "Extremely warm," and the morality, sociability, and competence response scale was "Strongly Disagree"-"Strongly Agree" instead of "Not at all" and "Extremely."

There was an effect of condition on perceptions of morality, $F(2, 231) = 17.14$, $p < .001$, $\eta_p^2 = .13$. Tukey's post-hoc comparisons were conducted, indicating that targets in the discrimination condition were viewed as more moral ($M = 2.55$, $SE = 0.12$) than were targets in either the advantage condition ($M = 1.54$, $SE = 0.12$; $t(231) = -5.79$, $p < .001$) or the no motivation condition ($M = 1.91$, $SE = 0.13$; $t(231) = 3.60$, $p = .001$). Targets in the advantage condition were neither viewed as significantly more nor less moral than targets in the no motivation condition ($t(231) = -2.07$, $p = .098$; see Figure 6 for Study 3 results).

Sociability

There was also an effect of condition on sociability, $F(2, 231) = 12.76$, $p < .001$, $\eta_p^2 = .10$. Tukey's post-hoc comparisons indicated that targets in the discrimination condition were viewed as more sociable ($M = 3.27$, $SE = 0.11$) than targets in both the advantage condition ($M = 2.52$, $SE = 0.11$; $t(231) = -4.92$, $p < .001$) and targets in the no motivation condition ($M = 2.74$, $SE = 0.11$; $t(231) = 3.41$, $p = .002$). Targets in the advantage condition and no motivation condition were not viewed as differently sociable ($t(231) = -1.41$, $p = .337$).

Competence

There was no significant effect of condition on competence, $F(2, 231) = 1.33$, $p = .267$, $\eta_p^2 = .01$.

Feeling Thermometer

There was an effect of conditions on attitudes towards the participant measured on a feeling thermometer, $F(2, 231) = 20.08$, $p < .001$, $\eta_p^2 = .15$. Tukey's post-hoc comparisons indicated that targets in the discrimination condition were viewed more positively ($M = 0.35$, $SE = 0.12$) than targets in the advantage condition ($M = -0.70$, $SE = 0.12$; $t(231) = -6.21$, $p < .001$) and targets in the no motivation condition ($M = -0.37$, $SE = 0.12$; $t(231) = 4.15$, $p < .001$).

Targets in the advantage condition and targets in the no motivation condition were neither

viewed more nor less positively than each other ($t(231) = -1.94$, $p = .129$).

Figure 6

Study 3 Results
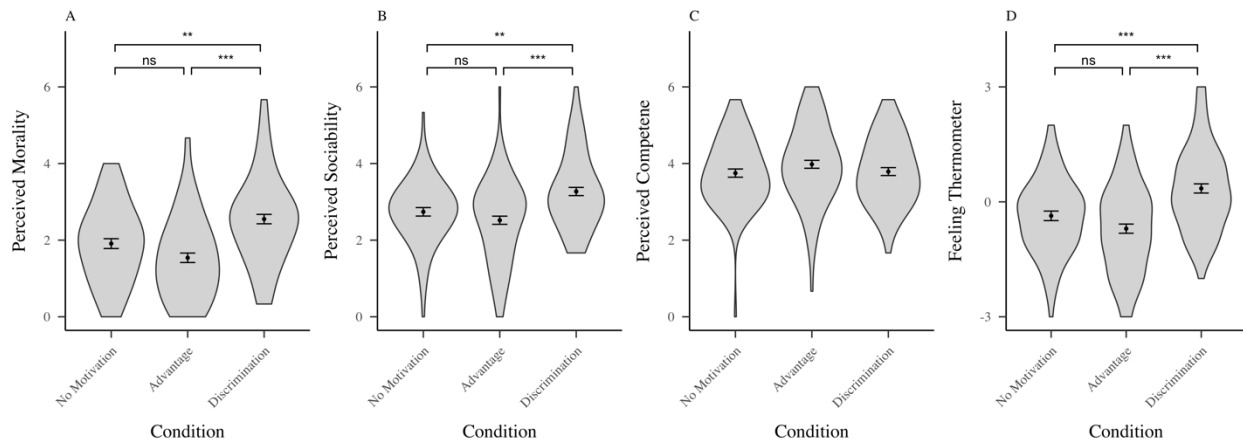
Note. Points and error bars represent condition means and standard errors. $^{ns}p \geq .05$. $*p < .05$.

$**p < .01$. $***p < .001$.

Discussion

Targets whose concealment was explicitly framed as motivated by discrimination

avoidance were rated more moral, more sociable, and more positively on feeling thermometers

than those whose concealment was framed as motivated by an attempt to gain special advantages

or targets whose motivation was not made explicit. Providing a stigma-related motivation for

concealment may soften the social penalties of concealing. Targets who concealed for unstated

reasons were perceived similarly to those who concealed to gain advantages, suggesting that

perceivers appraise targets who conceal in a way that is consistent with nefarious intentions in

the absence of intention information.

General Discussion

People who conceal are evaluated negatively, these effects are particularly pronounced for perceptions of morality, and these effects apply across many concealed identities, including stigmatized and non-stigmatized identities. In cases where an outgroup identity is actively claimed during concealment, non-stigmatized people claiming a stigmatized identity are penalized more strongly than stigmatized people claiming a non-stigmatized identity. Targets who conceal to avoid facing discrimination are evaluated less negatively than those who conceal to gain advantages, at least when the perceiver is privy to those motivations.

Prior to this work, our understanding of perceptions of people who conceal was limited primarily to effects on a specific trait (i.e., trustworthiness) and some downstream behaviors. The present work extends our understanding to basic dimensions of social cognition, connecting research on perceptions of people who conceal to the larger social cognitive literature. This opens the door to theoretically informed expectations about a broader array of downstream outcomes (Cuddy et al., 2007). Furthermore, the dominant role played by morality in person perception renders the present findings all the more important (Brambilla et al., 2012; Leach et al., 2007).

Also not previously well-understood were the roles of the focal identity, including both identity domain and stigmatization, and of the motivations of people who conceal. Although non-stigmatized and stigmatized people who conceal are perceived similarly, it is important to note that these evaluations may not be equally earned. Among stigmatized individuals, concealment is a response to adversity (Goffman, 1963). Among non-stigmatized people, this same explanation is illogical, and anecdotal examples of concealment among non-stigmatized people are inconsistent with this motive (e.g., Agrawal, 2020; Levenson, 2020; Moyer, 2015).

Together, results from Studies 2C and 3 suggest that perceivers can distinguish between these and penalize accordingly. Yet, perceivers still punish stigmatized people who conceal.

Implications

Because most concealment involves a stigmatized identity, the penalties placed on people who conceal represent an additional form of stigmatization with which they must contend. For this reason alone, researchers and advocates working with groups with concealable stigmatized identities should be mindful. Advocacy that celebrates disclosure (e.g., "National Coming Out Day") and concealment researchers should note this potential source of stigma to avoid further stigmatizing individuals without the ability or desire to disclose.

Furthermore, this stigma may connect as-of-yet disparate findings in the psychology of concealment. For example, decades of research in psychology, social work, and public health has documented the negative health consequences of concealment (Cole et al., 1996; Pachankis et al., 2020; Quinn et al., 2017; Weisz et al., 2016) and, separately, stigma's health toll (Hatzenbuehler et al., 2013; Major et al., 2013; Mak et al., 2007; Pachankis et al., 2018; Stuber et al., 2008). The present work suggests that one possible means by which concealment may lead to these may be the experience of concealment stigma. More broadly, concealment stigma should be investigated as a possible cause of deficits experienced by people who conceal across a range of outcomes not limited to health, but also including relational and individual well-being.

Strengths, Limitations, and Future Directions

The present work presents a set of pre-registered, well-powered studies featuring between- and within-subjects designs and internal replication of key effects. Furthermore, we demonstrate consistent effects across many identities, demonstrating both the robustness and the generality of the effect. The data also speak to an important and under-researched question

pertinent to stigmatized groups and with implications for scholars in and outside of psychology as well as activists working on behalf of groups with stigmatized concealable identities.

At the same time, while the vignettes used throughout the present work allowed us to tightly control our experiments, they are also artificial. The vignettes are additionally brief and provide little information about the targets other than the manipulation content. This was done intentionally, but also renders possible that participants may have been filling in gaps (e.g., targets' identities) with their own assumptions and that these assumptions may have influenced their responses. There is no reason to expect that these assumptions would have varied systematically between conditions and across studies in such a way that it would have led to the pattern of results we find here, but this is nonetheless a limitation of the present method. Work using more naturalistic stimuli is called for.

The samples presently reported are convenience samples unrepresentative of the broader population and thus caution should be used before generalizing the present results to the broader population. Additionally, it is at present unknown whether these results would extend to specific groups within the population which may be of interest to some readers, for example particularly high-prejudice individuals. In the future researchers may wish to purposefully sample groups of interest to address such questions.

Additional future directions include investigating the target perspective on concealment, including testing the effects of concealment stigma on people who conceal. Furthermore, as suggested by the results of Study 3, empathy and perspective-taking interventions should be investigated as possible avenues for reducing concealment stigma.

Conclusion

As people with concealable stigmatized identities navigate the world, they make decisions about how to manage the presentation of their identities in social contexts. The present work highlights the precarious social situation in which people with concealable stigmatized identities find themselves that leaves them potentially exposed to stigmatization no matter their choice.

References

Ahmad, S., & Bhugra, D. (2010). Homophobia: An updated review of the literature. *Sexual and Relationship Therapy*, *25*(4), 447–455. https://doi.org/10.1080/14681994.2010.515206

Altman, I. (1973). Reciprocity of Interpersonal Exchange. *Journal for the Theory of Social Behaviour*, *3*(2), 249–261. https://doi.org/10.1111/j.1468-5914.1973.tb00325.x

Altman, I., & Taylor, D. A. (1973). *Social penetration: The development of interpersonal relationships*. Holt, Rinehart & Winston.

Altman, I., Vinsel, A., & Brown, B. B. (1981). Dialectic Conceptions In Social Psychology: An Application To Social Penetration And Privacy Regulation. *Advances in Experimental Social Psychology*, *14*, 107–160.

Anderson, N. H. (1968). Likableness ratings of 555 personality-trait words. *Journal of Personality and Social Psychology*, *9*(3), 272–279. https://doi.org/10.1037/h0025907

Bates, D., Maechler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, *67*, 1–48.

Berg, J. H., & Clark, M. S. (1986). Differences in Social Exchange Between Intimate and Other Relationships: Gradually Evolving or Quickly Apparent? In V. J. Derlega & B. A. Winstead (Eds.), *Friendship and Social Interaction* (pp. 101–128). Springer New York. https://doi.org/10.1007/978-1-4612-4880-4_6

Brambilla, M., Sacchi, S., Rusconi, P., Cherubini, P., & Yzerbyt, V. Y. (2012). You want to give a good impression? Be honest! Moral traits dominate group impression formation: Moral traits dominate group impression formation. *British Journal of Social Psychology*, *51*(1), 149–166. https://doi.org/10.1111/j.2044-8309.2010.02011.x

Charlesworth, T. E. S., & Banaji, M. R. (2019). Patterns of implicit and explicit attitudes: I.

Long-term change and stability from 2007 to 2016. *Psychological Science*, *30*(2), 174–

192. https://doi.org/10.1177/0956797618813087

Chaudoir, S., & Fisher, J. D. (2010). The disclosure process model: Understanding disclosure

decision-making and post-disclosure outcomes among people living with a concealable

stigmatized identity. *Psychological Bulletin*, *136*(2), 236–256.

https://doi.org/10.1037/a0018193.The

Cole, S. W., Kemeny, M. E., Taylor, S. E., & Visscher, B. R. (1996). Elevated physical health

risk among gay men who conceal their homosexual identity. *Health Psychology*, *15*(4),

243–251. https://doi.org/10.1037/0278-6133.15.4.243

Cottrell, C. A., Neuberg, S. L., & Li, N. P. (2007). What do people desire in others? A

sociofunctional perspective on the importance of different valued characteristics. *Journal

of Personality and Social Psychology*, *92*(2), 208–231. https://doi.org/10.1037/0022-

3514.92.2.208

Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2007). The BIAS map: Behaviors from intergroup

affect and stereotypes. *Journal of Personality and Social Psychology*, *92*(4), 631–648.

https://doi.org/10.1037/0022-3514.92.4.631

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical

power analysis program for the social, behavioral, and biomedical sciences. *Behavior

Research Methods*, *39*(2), 175–191.

Fiske, S. T. (2018). Stereotype Content: Warmth and Competence Endure. *Current Directions in

Psychological Science*, *27*(2), 67–73. https://doi.org/10.1177/0963721417738825

Fiske, S. T., Cuddy, A. J. C., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences*, *11*(2), 77–83. https://doi.org/10.1016/j.tics.2006.11.005

Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, *82*(6), 878–902. https://doi.org/10.1037/0022-3514.82.6.878

Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. Prentice-Hall Inc.

Hatzenbuehler, M. L., Phelan, J. C., & Link, B. G. (2013). Stigma as a Fundamental Cause of Population Health Inequalities. *American Journal of Public Health*, *103*(5), 813–821. https://doi.org/10.2105/AJPH.2012.301069

Hays, R. B. (1985). A Longitudinal Study of Friendship Development. *Journal of Personality and Social Psychology*, *48*, 909–924.

Herek, G. M. (2000). The Psychology of Sexual Prejudice. *Current Directions in Psychological Science*, *9*(1), 19–22. https://doi.org/10.1111/1467-8721.00051

Jaeger, B. (2017). *r2glmm: Computes R Squared for Mixed (Multilevel) Models* (0.1.2) [Computer software]. https://CRAN.R-project.org/package=r2glmm

John, L. K., Barasz, K., & Norton, M. I. (2016). Hiding personal information reveals the worst. *Proceedings of the National Academy of Sciences*, *113*(4), 954–959. https://doi.org/10.1073/pnas.1516868113

Jones, E. E., Farina, A., Hastorf, A. H., Markus, H., Miller, D. T., & Scott, R. A. (1984). *Social Stigma: The Psychology of Marked Relationships*. W. H. Freeman and Company.

Kite, M. E., Stockdale, G. D., Whitley, B. E., & Johnson, B. T. (2005). Attitudes Toward

    Younger and Older Adults: An Updated Meta-Analytic Review. *Journal of Social Issues*,

    61(2), 241–266. https://doi.org/10.1111/j.1540-4560.2005.00404.x

Kuznetsova, A., Brockhoff, P. B., & Christensen, R. H. B. (2017). lmerTest package: Tests in

    linear mixed effects models. *Journal of Statistical Software*, *82*, 1–26.

Landy, J. F., Piazza, J., & Goodwin, G. P. (2016). When It's Bad to Be Friendly and Smart: The

    Desirability of Sociability and Competence Depends on Morality. *Personality and Social*

    Psychology Bulletin, *42*(9), 1272–1290. https://doi.org/10.1177/0146167216655984

Le Forestier, J. M., Page-Gould, E., & Chasteen, A. L. (under review). *Statistical power for a set*

    of tests.

Le Forestier, J. M., Page-Gould, E., Lai, C. K., & Chasteen, A. L. (2020). Concealability beliefs

    facilitate navigating intergroup contexts. *European Journal of Social Psychology*, *50*,

    1210–1226. https://doi.org/10.1002/ejsp.2681

Le Forestier, J. M., Page-Gould, E., Lai, C. K., & Chasteen, A. L. (2022). Subjective Identity

    Concealability and the Consequences of Fearing Identity-Based Judgment. *Personality*

    and Social Psychology Bulletin, *48*(3), 445–462.

    https://doi.org/10.1177/01461672211010038

Leach, C. W., Ellemers, N., & Barreto, M. (2007). Group virtue: The importance of morality (vs.

    competence and sociability) in the positive evaluation of in-groups. *Journal of*

    Personality and Social Psychology, *93*(2), 234–249. https://doi.org/10.1037/0022-

    3514.93.2.234

Lenth, R. (2020). *emmeans: Estimated Marginal Means, aka Least-Squares Means* (1.4.6).

MacInnis, C., & Hodson, G. (2015). The development of online cross-group relationships among

    university students: Benefits of earlier (vs. Later) disclosure of stigmatized group

    membership. *Journal of Social and Personal Relationships*, *32*(6), 788–809.

    https://doi.org/10.1177/0265407514548394

Major, B., Mendes, W. B., & Dovidio, J. F. (2013). Intergroup relations and health disparities: A

    social psychological perspective. *Health Psychology*, *32*(5), 514–524.

    https://doi.org/10.1037/a0030358

Mak, W. W. S., Poon, C. Y. M., Pun, L. Y. K., & Cheung, S. F. (2007). Meta-analysis of stigma

    and mental health. *Social Science & Medicine*, *65*(2), 245–261.

    https://doi.org/10.1016/j.socscimed.2007.03.015

Newheiser, A.-K., & Barreto, M. (2014). Hidden costs of hiding stigma: Ironic interpersonal

    consequences of concealing a stigmatized identity in social interactions. *Journal of

    Experimental Social Psychology*, *52*, 58–70. https://doi.org/10.1016/j.jesp.2014.01.002

Ogan, C., Willnat, L., Pennington, R., & Bashir, M. (2014). The rise of anti-Muslim prejudice:

    Media and Islamophobia in Europe and the United States. *International Communication

    Gazette*, *76*(1), 27–46. https://doi.org/10.1177/1748048513504048

Olanubi, G. (2019). *Perceiver's Perspective of the Discovery of Concealment: Understanding

    the Other Side of Disclosure* [University of California, Los Angeles].

    https://escholarship.org/uc/item/5p0308gg

Pachankis, J. E., Hatzenbuehler, M. L., Wang, K., Burton, C. L., Crawford, F. W., Phelan, J. C.,

    & Link, B. G. (2018). The burden of stigma on health and well-being: A taxonomy of

    concealment, course, disruptiveness, aesthetics, origin, and peril across 93 stigmas.

Personality and Social Psychology Bulletin, *44*(4), 451–474.

https://doi.org/10.1177/0146167217741313

Pachankis, J. E., Mahon, C. P., Jackson, S. D., Fetzner, B. K., & Bränström, R. (2020). Sexual

orientation concealment and mental health: A conceptual and meta-analytic review.

Psychological Bulletin, *146*(10), 831–871. https://doi.org/10.1037/bul0000271

Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A

personality variable predicting social and political attitudes. *Journal of Personality and

Social Psychology*, *67*(4), 741–763. https://doi.org/10.1037/0022-3514.67.4.741

Quinn, D. M., Weisz, B. M., & Lawner, E. K. (2017). Impact of active concealment of

stigmatized identities on physical and psychological quality of life. *Social Science &

Medicine*, *192*, 14–17.

R Core Team. (2020). *R: A language and environment for statistical computing* (4.0.0).

Revelle, W. (2018). *psych: Procedures for personality and psychological research* (1.8.12).

Northwestern University.

Sprecher, S., Treger, S., Wondra, J. D., Hilaire, N., & Wallpe, K. (2013). Taking turns:

Reciprocal self-disclosure promotes liking in initial interactions. *Journal of Experimental

Social Psychology*, *49*(5), 860–866. https://doi.org/10.1016/j.jesp.2013.03.017

Strabac, Z., & Listhaug, O. (2008). Anti-Muslim prejudice in Europe: A multilevel analysis of

survey data from 30 countries. *Social Science Research*, *37*(1), 268–286.

https://doi.org/10.1016/j.ssresearch.2007.02.004

Stuber, J., Meyer, I., & Link, B. (2008). Stigma, prejudice, discrimination and health. *Social

Science & Medicine*, *67*(3), 351–357. https://doi.org/10.1016/j.socscimed.2008.03.023

Thompson, W. E., & Harred, J. L. (1992). Topless dancers: Managing stigma in a deviant

  occupation. *Deviant Behavior*, *13*(3), 291–311.

  https://doi.org/10.1080/01639625.1992.9967914

Weisz, B. M., Quinn, D. M., & Williams, M. K. (2016). Out and healthy: Being more "out"

  about a concealable stigmatized identity may boost the health benefits of social support.

  Journal of Health Psychology, *21*(12), 2934–2943.

  https://doi.org/10.1177/1359105315589392

Yum, Y., & Hara, K. (2005). Computer-Mediated Relationship Development: A Cross-Cultural

  Comparison. *Journal of Computer-Mediated Communication*, *11*(1), 133–152.

  https://doi.org/10.1111/j.1083-6101.2006.tb00307.x

Zakrisson, I. (2005). Construction of a short version of the Right-Wing Authoritarianism (RWA)

  scale. *Personality and Individual Differences*, *39*(5), 863–872.

  https://doi.org/10.1016/j.paid.2005.02.026

Concealment Stigma: The Social Costs of Concealing

Supplementary Materials

Study 1S

In Study 1S, we sought to examine perceptions of people who conceal on a number of single-item trait ratings. This study was the first run in this line of work (i.e., prior to Study 1 reported in the main text), but we discarded it due to high rates of manipulation check failures. Adaptations were thus made to the method to improve participant comprehension, resulting in the studies reported in the main text. Importantly, the same pattern of results emerged here as in Study 1 and throughout the main text, regardless of whether participants who failed the manipulation check were included or excluded from the analyses. The present results thus bolster the claims made in the main text.

Method

Participants

We conducted a power analysis in G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) to determine the sample size required to detect an effect of $d = 0.40$, an effect size selected based on a literature review. This procedure yielded a desired sample size of $n = 200$. To account for exclusions, we rounded this number up by 20% and therefore aimed to collect data from $n = 240$ participants.

Ultimately, 242 participants were recruited. Eighteen were excluded for failing the first attention check and 13 were excluded for failing the second attention check. One participant was removed through listwise deletion to account for missing data. We also pre-registered that we would exclude participants who failed the manipulation check. However, participants in the disclosure condition failed the manipulation check at a high rate (i.e., 67% failure rate). Participants in the concealment condition did not exhibit the same issue (i.e., 7% failure rate). This high rate of failure in the disclosure condition was what led us to lose confidence in the

quality of the present data, and why the study was re-run with the clearer procedure presented in

Study 1 of the main text. For transparency and completeness, results from the present study are

presented using both the pre-registered analysis plan (i.e., excluding participants who failed the

manipulation check) and using more inclusive criteria (i.e., including participants who failed the

manipulation check). Including participants who failed the second attention check, the analytic

dataset consisted of 210 participants after exclusions (109 in the concealment condition and 101

in the disclosure condition; $M_{age} = 26.06$, $SD = 9.29$, 63% Male, 70% European ethnic origin).

Excluding participants who failed the second attention check, the analytic dataset consisted of

133 participants after exclusions (101 in the concealment condition, 32 in the disclosure

condition; $M_{age} = 26.89$, $SD = 9.53$, 66% Male, 71% European ethnic origin).

Procedure

The procedure for the present study was the same as that of Study 1 in the main text with

the following exception: The manipulation check was only presented once, at the end of the

study, and only two attention checks were presented; the third attention check from Study 1 was

not present in this study as it would have been redundant with the manipulation check.

Manipulation

The manipulation consisted of two vignettes. In the concealment condition, it read: "S

holds a certain identity that S doesn't want others to know about. So, S conceals that identity

from others. That is, S tries to prevent others from finding out that they hold that identity." In the

disclosure condition, it read: "S holds a certain identity that S doesn't want others to know about.

Nevertheless, S allows that identity to be known by others. That is, S does not try to prevent

others from finding out that they hold that identity."

Measures

Single-Item Trait Ratings. Participants were asked "How much would you describe S—the person you read about—with each of the following traits?" and responded once each for five different traits on 5-point scales anchored by "0 – Not at all" and "4 – Extremely." Participants rated the traits: honest (including manipulation check failures: $M = 1.29$, $SD = 1.03$; excluding manipulation check failures: $M = 1.21$; $SD = 1.00$), trustworthy (inclusive: $M = 1.34$, $SD = 1.03$; exclusive: $M = 1.32$, $SD = 1.03$), authentic, (inclusive: $M = 1.23$, $SD = 1.09$; exclusive: $M = 1.13$, $SD = 1.04$), phony (inclusive: $M = 1.53$, $SD = 1.15$; exclusive: $M = 1.64$; $SD = 1.13$), and liar (inclusive: $M = 1.28$, $SD = 1.12$; exclusive: $M = 1.40$, $SD = 1.15$).

Feeling Thermometer. Participants responded to the item, "Please rate how warm or cold you feel toward S." on a 7-point scale anchored by response options "-3 – Very cold" and "3 – Very warm" (inclusive: $M = -0.24$, $SD = 1.19$; exclusive: $M = -0.29$, $SD = 1.27$).

Results

All analyses for this and subsequent studies were performed using R 4.0.4 (R Core Team, 2020). Homogeneity of variance was assessed for each model prior to analysis. Student's t-tests were computed where that assumption was met and Welch t-tests were conducted where it was not. Results are displayed in Table 1.

Table 1

Study 1S Results

DV	Including participants who failed the attention check	Excluding participants who failed the attention check
Honest		
Group Ms	C = 1.02; D = 1.58	C = 1.01, D = 1.85
Model	$t(200.49) = -4.07$, $p < .001$, $d = -0.57$	$t(131) = -4.38$, $p < .001$, $d = -0.89$
Trustworthy		
Group Ms	C = 1.13; D = 1.57	C = 1.14; D = 1.91
Model	$t(208) = -3.21$, $p = .002$, $d = -0.44$	$t(131) = -3.85$, $p < .001$, $d = -0.78$
Authentic		

Group *M*s	C = 0.92; D = 1.56	C = 0.86; D = 1.97
Model	*t*(199.59) = -4.48, *p* < .001, *d* = -0.62	*t*(131) = -5.88, *p* < .001, *d* = -1.19
Phony		
Group *M*s	C = 1.81; D = 1.24	C = 1.85; D = 0.97
Model	*t*(208) = 3.71, *p* < .001, *d* = 0.51	*t*(131) = 4.07, *p* < .001, *d* = 0.83
Liar		
Group *M*s	C = 1.61; D = 0.92	C = 1.66; D = 0.56
Model	*t*(208) = 4.70, *p* < .001, *d* = 0.65	*t*(78.17) = 6.28, *p* < .001, *d* = 1.04
Therm		
Group *M*s	C = -0.39; D = -0.07	C = -0.41; D = 0.06
Model	*t*(208) = -2.00, *p* = .047, *d* = -0.28	*t*(131) = -1.84, *p* = .068, *d* = -0.37

Note. "C" refers to the concealment condition. "D" refers to the disclosure condition.

Discussion

In general, targets were viewed more negatively across dependent variables when they concealed than when they disclosed. This was largely true regardless of how manipulation check failures were dealt with. Effect sizes were generally larger when participants who failed the manipulation check were excluded, indicating that participants who misunderstood the manipulation introduced noise into the data, attenuating the observed effect sizes and undermining data quality.

Study 2S

In Study 2S, we sought to replicate the results of Study 1S while using a clearer manipulation. We additionally administered a new dependent variable assessing participants' willingness to affiliate with the target and administered additional trait ratings to allow for the computation of indices of perceived morality, sociability and competence. Like in Study 1S, an unacceptably high proportion of participants failed the attention check in the disclosure condition (61% failure rate). Participants in the concealment condition again failed the attention check at a less remarkable rate (11% failure). Due to concerns about data quality similar to those from Study 1S, we elected to report the present study in the online supplement, both including and

excluding participants who failed the attention check. Study 1 presented in the main text was the next study run in this line of research, and no additional studies not reported either here or in the main text were run.

Method

Participants

We conducted a power analysis in G*Power (Faul et al., 2007) to detect an effect of $d =$ 0.28, the smallest effect size observed in Study 1S. This procedure yielded a required sample size of $n = 404$ participants, which we rounded up by 20% for a total recruitment goal of $n = 485$.

Ultimately, 485 participants were recruited. Thirty were removed for failing the first attention check and 15 were removed for failing the second attention check. Two participants were removed due to missing data dealt with through listwise deletion. Including participants who failed the manipulation check, the final analytic sample consisted of 438 participants (218 in the concealment condition and 220 in the disclosure condition; $M_{age} = 28.72$ years, $SD = 9.84$ years, 50% Female, 84% European ethnic origin). Excluding participants who failed the second attention check, the analytic dataset consisted of 285 participants (197 in the concealment condition, 88 in the disclosure condition; $M_{age} = 29.32$ years, $SD = 10.55$ years, 52% Female, 83% European ethnic origin).

Procedure

The procedure was identical to that of Study 1S with the exception of the updated manipulation vignettes, which were changed between studies in an effort to increase participant comprehension.

Manipulation

In the concealment condition, the vignette read: "S holds a certain identity that S doesn't want other people to know about. So, S conceals that identity from other people." In the disclosure condition, the vignette read: "S holds a certain identity that S doesn't want other people to know about. Despite this, S discloses that identity to other people."

Measures

Single-Item Trait Ratings. Using the same items as in Study S1, participants rated the traits: honest (inclusive: $M = 2.40$, $SD = 1.62$; exclusive: $M = 2.25$; $SD = 1.66$), trustworthy (inclusive: $M = 2.26$, $SD = 1.46$; exclusive: $M = 2.15$, $SD = 1.46$), authentic, (inclusive: $M = 2.29$, $SD = 1.60$; exclusive: $M = 2.16$, $SD = 1.62$), phony (inclusive: $M = 2.91$, $SD = 1.47$; exclusive: $M = 2.96$; $SD = 1.47$), and liar (inclusive: $M = 2.87$, $SD = 1.64$; exclusive: $M = 3.04$, $SD = 1.66$).

Morality. Using the same prompts as the single-item trait ratings, we took a mean of participants' ratings for the "honest," "trustworthy" and "sincere" items as our index of morality (inclusive: $M = -2.34$, $SD = 1.38$; exclusive: $M = 2.22$, $SD = 1.42$; Leach et al., 2007).

Sociability. We calculated a mean of the "likeable," "warm," and "friendly" items as our measure of sociability (inclusive: $M = 2.63$, $SD = 1.05$; exclusive: $M = 2.60$, $SD = 1.05$; Leach et al., 2007).

Competence. We took a mean of the "competent," intelligent," and "skilled" to measure competence (inclusive: $M = 3.29$, $SD = 1.00$; exclusive: $M = 3.31$, $SD = 0.99$; Leach et al., 2007).

Feeling Thermometer. Participants responded to the same item as in Study 1S (inclusive: $M = -0.32$, $SD = 1.12$; exclusive: $M = -0.35$, $SD = 1.10$).

Social Distance. Finally, we administered a 5-item measure of participants' willingness to affiliate with the target (example item: "I would be willing to spend time with S in the future,"

on 7-point scales anchored by response options "-3-Strongly Disagree" – "3-Strongly Agree"

(inclusive: $M = -0.01$, $SD = 1.06$; exclusive: $M = -0.04$, $SD = 1.10$; (Perry et al., 2021).

Results

      We followed the same analytic procedure as in Study 1. Results are displayed in Table 2.

Table 2

Study 2S Results

DV	Including participants who failed the attention check	Excluding participants who failed the attention check
Honest		
Group *M*s	C = 1.97; D = 2.82	C = 1.88, D = 3.07
Model	$t(436) = -5.64$, $p < .001$, $d = -0.54$	$t(139.63) = -5.44$, $p < .001$, $d = -0.76$
Trustworthy		
Group *M*s	C = 2.05; D = 2.46	C = 2.01; D = 2.49
Model	$t(436) = -2.96$, $p = .003$, $d = -0.28$	$t(283) = -2.61$, $p = .010$, $d = -0.33$
Authentic		
Group *M*s	C = 1.96; D = 2.60	C = 1.90; D = 2.74
Model	$t(432.34) = -4.29$, $p < .001$, $d = -0.41$	$t(145.30) = -3.89$, $p < .001$, $d = -0.53$
Phony		
Group *M*s	C = 2.98; D = 2.85	C = 3.07; D = 2.72
Model	$t(436) = 0.95$, $p = .345$, $d = 0.09$	$t(283) = 1.89$, $p = .060$, $d = 0.24$
Liar		
Group *M*s	C = 3.19; D = 2.55	C = 3.24; D = 2.58
Model	$t(436) = 4.18$, $p < .001$, $d = 0.40$	$t(16=46.2) = 2.99$, $p = .003$, $d = 0.41$
Moral		
Group *M*s	C = 2.00; D = 2.67	C = 1.94; D = 2.85
Model	$t(436) = -56.17$, $p < .001$, $d = -0.49$	$t(137.57) = -4.74$, $p < .001$, $d = -0.66$
Sociable		
Group *M*s	C = 2.48; D = 2.78	C = 2.48; D = 2.84
Model	$t(436) = -3.01$, $p = .003$, $d = -0.29$	$t(283) = -2.72$, $p = .007$, $d = -0.35$
Competent		
Group *M*s	C = 3.44; D = 3.14	C = 3.44; D = 3.03
Model	$t(436) = 3.16$, $p = .002$, $d = 0.30$	$t(283) = 3.24$, $p = .001$, $d = 0.42$
Therm		
Group *M*s	C = -0.42; D = -0.04	C = -0.46; D = -0.10
Model	$t(436) = -2.43$, $p = .016$, $d = -0.23$	$t(283) = -2.59$, $p = .010$, $d = -0.33$
Soc. Dist.		
Group *M*s	C = -0.06; D = 0.04	C = -0.06; D = -0.00

Model	$t(436) = -1.04, p = .300, d = -0.10$	$t(283) = -0.40, p = .686, d = -0.05$

Note. "C" refers to the concealment condition. "D" refers to the disclosure condition.

Discussion

The results of Study 2S mostly replicated the results of Study 1S. In general, targets who concealed were viewed more negatively across dependent variables compared to targets who disclosed, and effect sizes were generally larger after participants who failed the manipulation check were excluded. No significant effects were found the social distance variable.

Results for Individual Trait Ratings in Study 1

In Study 1, presented in the main text, we pre-registered that would analyze results using individual trait ratings as dependent variables in addition to composite measures. For brevity, the individual trait ratings are not presented in the main text. For transparency and completeness, they are presented here. The results presented here paint a picture consistent with the other results of Study 1 presented in the main text.

Individual Trait Ratings Results

Honest

Participants viewed the target who concealed as less honest ($M = 1.57$, *SD* 1.25) than the target who disclosed ($M = 3.72$, $SD = 1.56$; $t(409.92) = -15.85, p < .001, d = -1.52$.

Trustworthy

Participants viewed the target who concealed as less trustworthy ($M = 1.83$, $SD = 1.25$) than the target who disclosed ($M = 3.27$, $SD = 1.53$; $t(413.47) = -10.78, p < .001, d = -1.03$.

Authentic

Participants viewed the target who concealed as less authentic ($M = 1.67$, $SD = 1.31$) than the target who disclosed ($M = 3.45$, $SD = 1.58$; $t(415.1) = -12.82, p < .001, d = -1.23$.

Phony

Participants viewed the target who concealed as more phony ($M = 3.04$, $SD = 3.04$) than the target who disclosed ($M = 2.20$, $SD = 1.51$; $t(437) = 5.80$, $p < .001$, $d = 0.55$).

Liar

Participants viewed the target who concealed as more of a liar ($M = 3.39$, $SD = 1.60$) than the target who disclosed ($M = 1.83$, $SD = 1.49$; $t(437) = 10.54$, $p < .001$, $d = 1.01$.

<div align="center">

Additional Results from Study 2B

</div>

Measure

To probe whether participants belonging to a concealable stigmatized group (i.e., either non-Christian or non-straight participants depending on whether they were reporting on targets concealing or disclosing their religions versus sexual orientations), we calculated a new variable: participant stigmatization. Participants reporting on targets concealing or disclosing religious identities were categorized as "non-stigmatized" if they identified as "Christian (including Catholic)" in the demographic questionnaire and were otherwise categorized as stigmatized. Participants reporting on targets concealing or disclosing their sexual orientations were coded as "non-stigmatized" if they identified as "Straight (heterosexual")" in the demographic questionnaire and were otherwise categorized as stigmatized. These rough categorizations were made for the purposes of exploratory analyses, as subjective stigmatization was not measured in these studies.

Results

We ran four two (condition: conceal, disclose) by two (participant stigma: non-stigmatized, stigmatized) ANOVAs, one each for each of our dependent variables (i.e.,

perceptions of morality, perceptions of sociability, perceptions of competence, and feeling

thermometer ratings).

Participant stigma did not moderate any of the effects of concealment condition on any of

the four DVs. There was a single significant main effect of participant stigma on perceptions of

competence, such that stigmatized participants in both the concealment condition ($M = 3.18$, SE

$= 0.09$) and the disclosure condition ($M = 3.09$, $SE = 0.09$) rated targets as less competent than

did non-stigmatized participants in both the concealment condition ($M = 3.44$, $SE = .06$) and the

disclosure condition ($M = 3.28$, $SE = 0.06$; $F(1, 683) = 8.68$, $p = .003$, $\eta_p^2 = .01$). All results are

summarized in Table 3.

Table 3

Additional Results from Study 2B

Predictor	df	*F*	*p*	η_p^2
Morality model				
Concealment	1, 683	222.67	< .001	.25
Participant stigma	1, 683	3.54	.060	.01
Concealment × Participant stigma	1, 683	0.07	.795	.00
Sociability model				
Concealment	1, 683	14.95	< .001	.02
Participant stigma	1, 683	2.78	.096	.00
Concealment × Participant stigma	1, 683	0.02	.885	.00
Competence model				
Concealment	1, 683	3.71	.054	.01
Participant stigma	1, 683	8.68	.003	.01
Concealment × Participant stigma	1, 683	0.22	.637	.00
Feeling thermometer model				
Concealment	1, 683	1.45	.229	.00
Participant stigma	1, 683	1.24	.266	.00
Concealment × Participant stigma	1, 683	0.11	.737	.00

Quantitative Comparison of Results from Studies 2A and 2B

Studies 2A and 2B tested the same research question (whether the effects of concealment

on perceptions of morality, sociability, competence, and feeling thermometer ratings were

consistent or varied as a function of the concealed identity) in within- (Study 2A) and between-
(Study 2B) subjects designs. We merged the between-subjects data from Study 2B with the
within-subjects data from Study 2A. Then, we ran multi-level models with observations nested
within participants and including a three-way interaction between condition, target stigma, and
study design. Results from all model output are summarized in Table 4 and significant
interactions are probed below

Probing Interactions

Morality

There was a significant two-way interaction between condition and design (see Table 3).
Tukey's post-hoc tests revealed that the effect of condition was significant for both the within-
and between-subjects data but was larger in the within-subjects data ($b = -1.89$, $SE = 0.05$,
$t(1398) = -34.60$, $p < .001$) than the between-subjects data ($b = -1.37$, $SE = 0.09$, $t(1302) = -15.52$, $p < .001$), though with a somewhat smaller effect.

There was also a significant two-way interaction between stigma and design (see Table
3). Tukey's post-hoc tests revealed a significant effect of stigma in the between-subjects data
such that stigmatized targets were rated as more moral than non-stigmatized targets ($b = -0.27$ SE
$= 0.09$, $t(1302) = -3.049$, p $= .013$) but not in the within-subjects data ($b = -0.06$, $SE = 0.05$,
$t(1398) = -1.17$, $p = .647$).

Sociability

There was a significant two-way interaction between condition and study design (Table
3). Tukey's post-hoc tests revealed that there was a significant effect of condition in both sets of
data, though the effect was larger in the within-subjects data ($b = -0.69$, $SE = 0.04$, $t(1297) = -

16.83, $p < .001$) than in the between-subjects data ($b = -0.30$, $SE = 0.08$, $t(1035) = -4.06$, $p <$ .001).

Competence

There was a significant two-way interaction between condition and design (Table 3). Tukey's post-hoc tests revealed a significant effect in the within-subjects data ($b = -0.30$, $SE = 0.04$, $t(1362) = -6.88$, $p < .001$) but not in the between-subjects data ($b = 0.14$, $SE = 0.07$, $t(1209) = 1.91$, $p = .225$).

There was also a significant two-way interaction between study design and target stigma (Table 3). Tukey's post-hoc tests revealed a significant effect in the within-subjects design such that participants rated the non-stigmatized targets more competent than the stigmatized targets ($b = 0.19$, $SE = 0.04$, $t(1362) = 4.48$, $p < .001$) but no significant effect in the between-subjects data ($b = -0.16$, $SE = 0.07$, $t(1209) = -2.43$, $p = .072$).

Feeling Thermometer

There was a significant two-way interaction between condition and design (Table 3). Tukey's post-hoc tests revealed a significant effect of condition in the within-subjects data ($b = -0.72$, $SE = 0.05$, $t(1417) = -14.16$, $p < .001$) but not in the between-subjects data ($b = -0.11$, $SE = 0.08$, $t(1350) = -1.32$, $p = .548$).

Table 4

Summary of Results from Comparison of Study 2A and 2B

Model and Term	Model Output				
Morality					
Fixed Effects	*SS*	*MS*	df	*F*	*p*
Condition	967.42	967.42	1, 1753.55	985.78	< .001
Stigma	10.10	10.10	1, 1735.55	10.29	.001
Design	0.08	0.08	1, 177.56	0.08	.780
Condition * Stigma	2.37	2.37	1, 1735.55	2.42	.120
Condition * Design	24.60	24.60	1, 1735.55	25.07	< .001
Stigma * Design	3.84	3.84	1, 1735.55	2.91	.048

Condition * Stigma * Design	0.01	0.01	1, 1735.56	0.01	.925
Random Effects	*Var*	*SD*			
P Intercept	0.36	0.60			
Residual	0.98	0.99			

Sociability

	SS	*MS*	df	*F*	*p*
Fixed Effects					
Condition	75.86	75.86	1, 1453.54	136.03	< .001
Stigma	11.99	11.99	1, 1453.54	21.50	< .001
Design	0.02	0.02	1, 237.06	0.03	.860
Condition * Stigma	0.88	0.88	1, 1453.60	1.58	.209
Condition * Design	11.58	11.58	1, 1453.54	20.76	< .001
Stigma * Design	1.54	1.54	1, 1453.54	2.77	.096
Condition * Stigma * Design	0.54	0.54	1, 1453.60	0.96	.326
Random Effects	*Var*	*SD*			
P Intercept	0.41	0.64			
Residual	0.56	0.75			

Competence

	SS	*MS*	df	*F*	*p*
Fixed Effects					
Condition	2.23	2.23	1, 1682.20	3.63	.057
Stigma	0.03	0.03	1, 1682.20	0.05	.823
Design	2.43	2.43	1, 208.60	3.96	.048
Condition * Stigma	1.42	1.42	1, 1682.20	2.31	.129
Condition * Design	16.45	16.45	1, 1682.20	26.83	< .001
Stigma * Design	11.81	11.81	1, 1682.20	19.26	< .001
Condition * Stigma * Design	0.32	0.32	1, 1682.20	0.52	.474
Random Effects	*Var*	*SD*			
P Intercept	0.28	0.53			
Residual	0.61	0.78			

Feeling Thermometer

	SS	*MS*	df	*F*	*p*
Fixed Effects					
Condition	63.89	63.89	1, 1744.60	74.64	< .001
Stigma	18.62	18.62	1, 1744.60	21.75	< .001
Design	0.27	0.27	1, 153.53	0.31	.576
Condition * Stigma	0.40	0.40	1, 1744.60	0.47	.495
Condition * Design	35.02	35.02	1, 1744.60	40.91	< .001
Stigma * Design	0.60	0.60	1, 1744.60	0.70	.404
Condition * Stigma * Design	0.17	0.17	1, 1744.60	0.20	0.660
Random Effects	*Var*	*SD*			
P Intercept	0.29	0.54			
Residual	0.86	0.93			

Results for Reasonableness Variable in Study 2C

Measure

In Study 2C, participants responded to one exploratory measure in addition to what is already presented in the main text. Participants responded to the item: "Please rate how

reasonable you feel that it is for S to conceal their sexual orientation." on a 7-point scale anchored by "0 – Not at all" and "6 – Extremely" ($M = 3.35$, $SD = 1.73$).

Results

We assessed the effects of actual identity condition, claimed identity condition, and their interaction on perceptions of reasonableness. Concealment among stigmatized (i.e., gay) targets were viewed as more reasonable ($M = 3.88$, $SE = 0.09$) than it was among non-stigmatized (i.e., straight) targets ($M = 2.73$, $SE = 0.10$; $F(1, 545) = 68.34$, $p < .001$, $\eta^2 = .11$). Concealment was also viewed as more reasonable among participants who did not claim an outgroup identity ($M = 3.52$, $SE = 0.10$) than among those who did ($M = 3.09$, $SE = 0.10$; $F(1, 545) = 8.89$, $p = .003$, $\eta^2 = .02$). There was no significant interaction between claimed and actual identity condition ($F(1, 545) = 3.19$, $p = .075$, $\eta^2 = .01$).

Additional Results from Study 3

Moderation of Key Effects

Measures

Social Dominance Orientation (SDO). Participants responded to 16 items (e.g., "Some groups of people are simply inferior to other groups;" $M = -1.41$, $SD = 0.95$, $\alpha = .90$; (Pratto, Sidanius, Stallworth, & Malle, 1994)) administered on 7-point scales anchored by response options "-3 Very negative" to "3 Very positive."
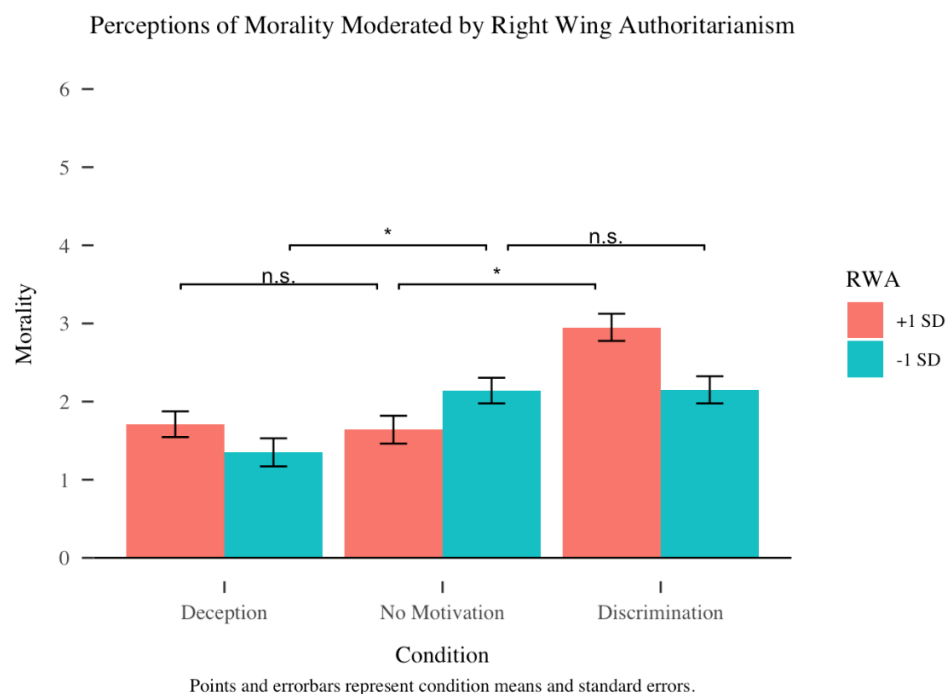
Right-Wing Authoritarianism (RWA). Participants responded to 15 items (e.g., "Our country needs a powerful leader, in order to destroy the radical and immoral currents prevailing in society today;" $M = -0.67$, $SD = 0.75$, $\alpha = .90$; (Zakrisson, 2005) administered on 7-point scales anchored by response options "-3 Very negative" to "3 Very positive."

Results

RWA. RWA moderated the effect of condition on morality ($F(2, 228) = 7.51$, $p < .001$) but it did not moderate the effects of condition on sociability ($F(2, 228) = 1.80$, $p = .168$), competence ($F(2, 228) = 1.24$, $p = .292$), or attitudes ($F(2, 228) = 1.408$, $p = .247$). We compared 95% confidence intervals around the condition means for participants one standard deviation above and below the mean on RWA to infer for whom significant condition differences on morality emerged. Only key contrasts are summarized in Figure 1 in which asterisks are used to indicate contrasts whose CIs did not overlap.

Figure 1

Interactive Effects of Condition and RWA on Perceptions of Morality

Perceptions of Morality Moderated by Right Wing Authoritarianism

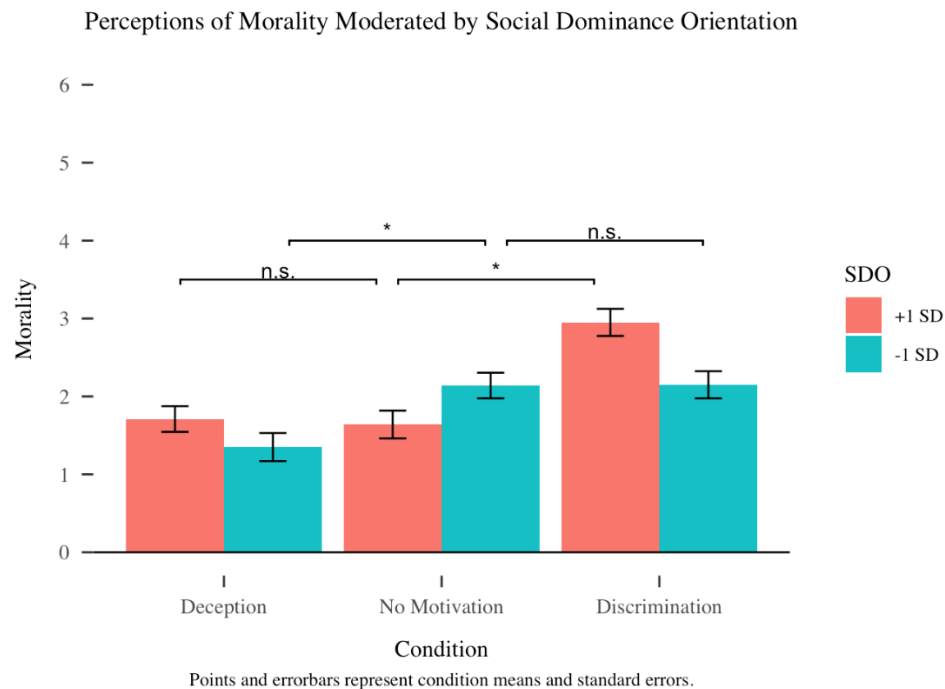Points and errorbars represent condition means and standard errors.

SDO. SDO also moderated the effect of condition on morality ($F(2, 228) = 3.66$, $p = .027$) but it did not moderate the effects of condition on sociability ($F(2, 228) = 0.38$, $p = .688$), competence ($F(2, 228) = 1.06$, $p = .350$), or attitudes ($F(2, 228) = 1.93$, $p = .148$). We again compared 95% confidence intervals around the condition means for participants one standard

deviation above and below the mean on SDO to infer for whom significant condition differences

on morality emerged (Figure 2).

Figure 2

Interactive Effects of Condition and SDO on Perceptions of Morality

Perceptions of Morality Moderated by Social Dominance Orientation

Points and errorbars represent condition means and standard errors.

Discussion

For participants high in either RWA or SDO, morality ratings in the no motivation and

deception conditions were more similar, while morality ratings in the no motivation and

discrimination conditions differed. For participants low in either RWA or SDO, the opposite was

true; the no motivation and discrimination conditions were more similar, while the no motivation

and deception conditions differed. This suggests that participants higher in RWA or SDO may

make more negative explanations for concealment by default, whereas participants low on these may make more positive explanations for concealment by default.

It is worth nothing that these interaction effects were only significant for morality. So, neither RWA nor SDO seems to moderate perceptions of concealers in a domain-general way. Rather, they seem to target perceptions of morality specifically.

Exploratory Analyses of Target Identities

Measures

Near the end of the study, immediately prior to the demographic survey, participants were asked: "At the start of the study, you read about someone named S, who concealed an identity from those around them. While you completed this survey, did you have a specific type of identity in mind that S might be concealing? If so, what was it? If not, please simply respond with: "No."" and were provided with a text box in which to record their response.

Analysis of Open-Ended Responses

The first author read and categorized participants' responses in terms of the identity category (e.g., sexual orientation, religion, personality trait, etc.) and its stigmatization (e.g., gay = stigmatized, straight = non-stigmatized).

Here, we present descriptive results for the whole sample of participants on (1) Whether or not participants inferred specific identities; (2) Among those who inferred identities, what type of identities they inferred; and (3) Among those who inferred identities, whether they inferred stigmatized identities or not. We additionally present condition differences in whether or not participants inferred specific identities and whether or not those identities were stigmatized. We do not present condition differences in identity category because of small cell sizes.

For each analysis, a χ2 test was performed followed by Bonferroni-corrected post-hoc

pairwise comparisons if the omnibus χ2 test was significant.

Results

Did Participants Infer an Identity? Among all participants, 111 reported inferring an

identity and124 did not. These frequencies were not significantly different from each other, $\chi^2(1)$

$= 0.62$, $p = .433$.

Which Types of Identities did Participants Infer? Among participants who reported

inferring an identity, there were significant differences between the frequency of which category

of identity was assumed, $\chi^2(13) = 136.33$, $p < .001$, such that sexual orientations/gender identities

were assumed more frequently than identities in several other categories. Participants also

generated multiple types of identities simultaneously more frequently than some categories of

identities (Figure 3).

Figure 3

Frequency of Assumed Identity Category
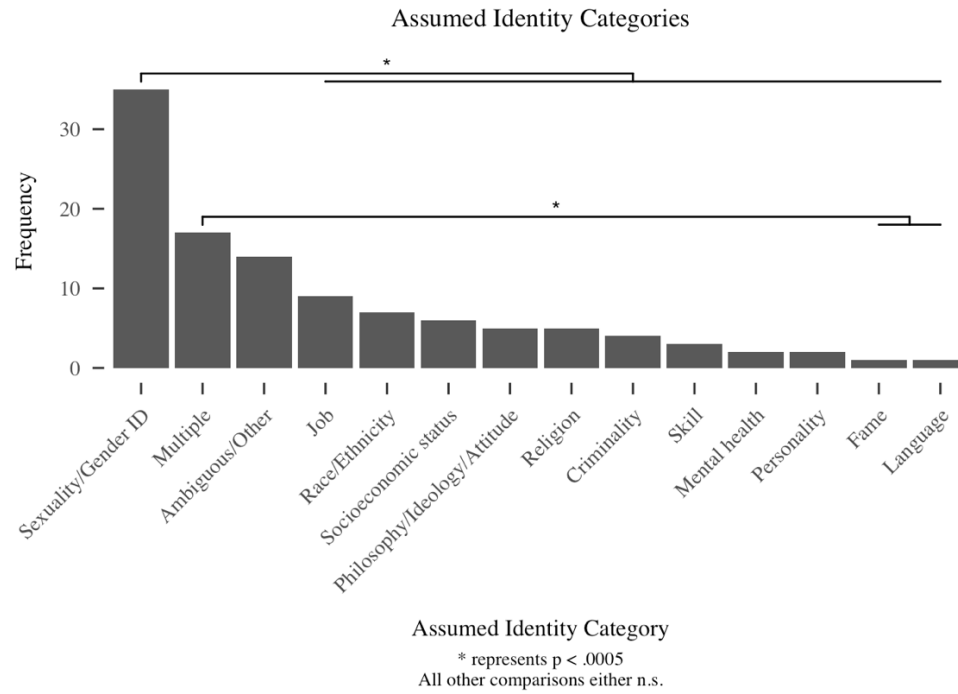
Were the Identities that Participants Inferred Stigmatized? Among participants who reported inferring an identity, there were significant differences between the frequency of inferring stigma versus not, $\chi^2(2) = 11.84$, $p = .003$. Participants inferred non-stigmatized identities less frequently than either stigmatized identities or ambiguous identities (Figure 4).

Figure 4

Frequency of Assumed Identity Stigmatization

Assumed Stigmatization

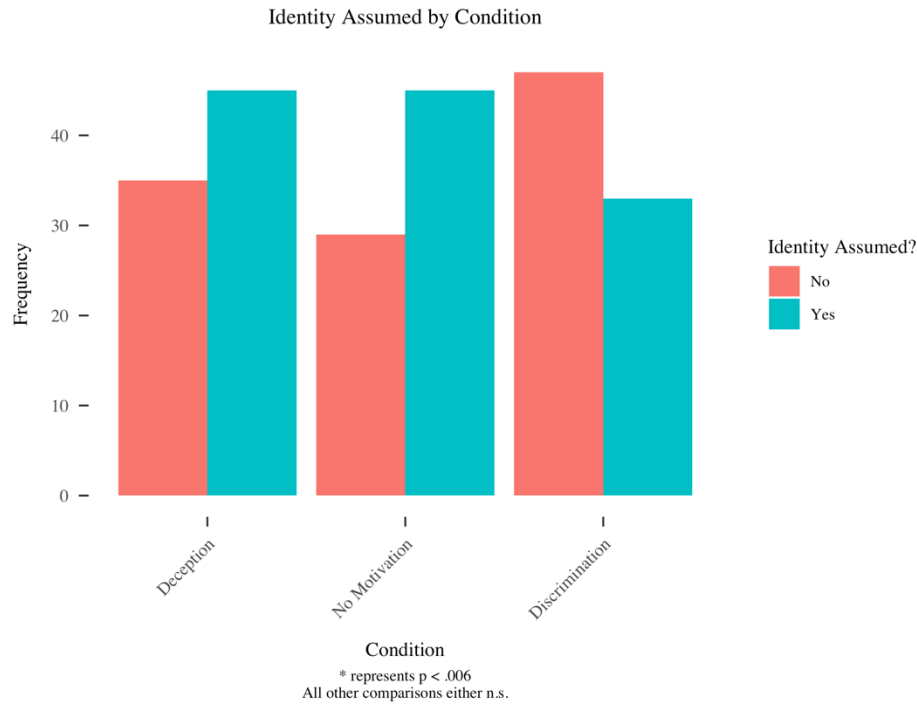* represents p < .017
All other comparisons either n.s.
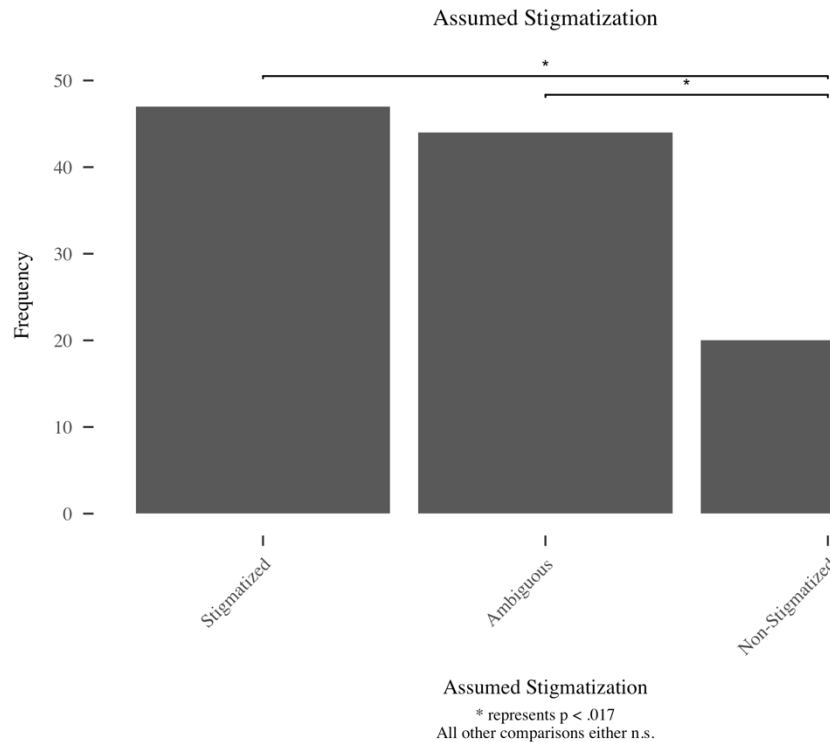
Was there an Effect of Condition on Whether Participants Inferred an Identity?

There was a significant overall effect of condition on whether or not an identity was inferred,

$\chi^2(2) = 6.56$, $p = .038$. We performed post-hoc pairwise comparisons for cells within each

condition, and for cells across conditions on the frequency of assuming identities, or not (i.e., 9

pairwise comparisons in total). None of the comparisons were significant (Figure 5).

Figure 5

Identity Assumed by Condition

Was there an Effect of Condition on Whether Participants Inferred a Stigmatized Identity? Among participants who inferred an identity, there was an overall effect of condition on whether the identity they inferred was stigmatized, $\chi^2(4) = 11.31$, $p = .023$. Participants in the discrimination condition were less likely to generate non-stigmatized identities than either stigmatized or ambiguous identities. Participants in the discrimination condition also generated non-stigmatized identities with less frequency than did participants in the deception condition (Figure 6).

Figure 6

Frequency of Assumed Identity Stigmatization by Condition
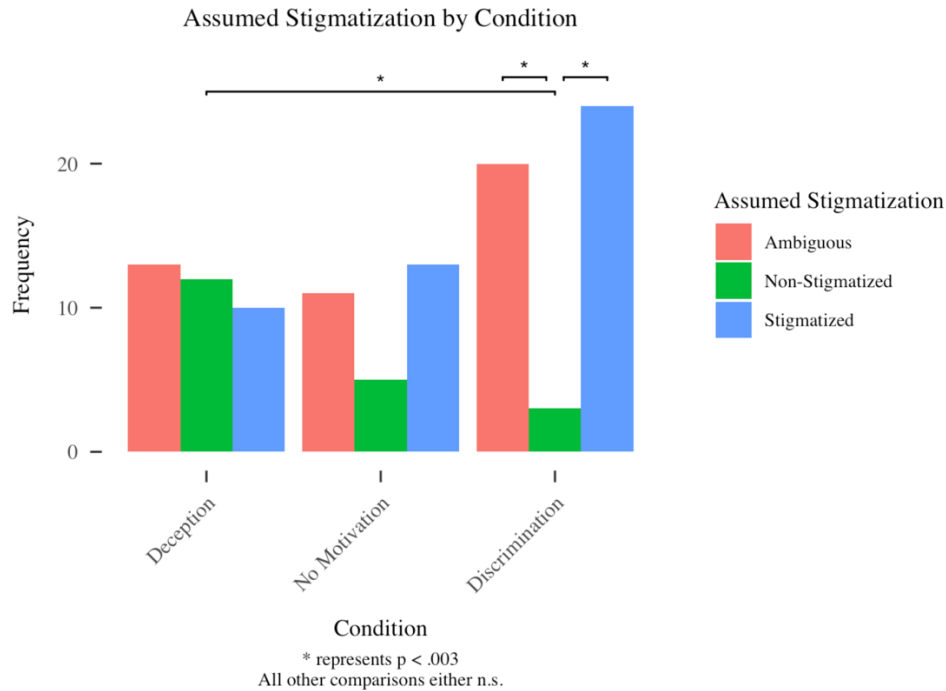
Readability of Vignettes from Studies Reported in the Main Text

We assessed the readability of each vignette presented in the main text by calculating its Flesch-Kincaid grade level, a common measure of readability which indexes the complexity of a passage of text according to U.S. grade level (i.e., a Flesch-Kincaid grade level of 5 would indicate that a typical American 5th grader would be expected to comprehend the text; Kincaid et al., 1975). Across all vignettes, the average Flesch-Kincaid grade level was 4.45 ($SD = 2.10$). We therefore expect that the majority of our participants would have no trouble comprehending the vignettes. Exact Flesch-Kincaid grade levels for each vignette and the data used to calculate them are available on the project's OSF page.

References

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175–191.

Kincaid, J. P., Fishburne, R. P. Jr., Rogers, R. L., & Chissom, B. S. (1975). *Derivation of new readability formulas (Automated Readability Index, Fog Count and Flesch Reading Ease Formula) for Navy enliested personnel* (Research Branch Report No. 8–75). U. S. Naval Air Station.

Leach, C. W., Ellemers, N., & Barreto, M. (2007). Group virtue: The importance of morality (vs. competence and sociability) in the positive evaluation of in-groups. *Journal of Personality and Social Psychology*, *93*(2), 234–249. https://doi.org/10.1037/0022-3514.93.2.234

Perry, S., Skinner, A., Wages, J., & Parzonka, J. (2021). Ambivalent reactions to eople who deny or admit their gender and racial biases. *PsyArXiv*.

Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychology*, *67*(4), 741–763. https://doi.org/10.1037/0022-3514.67.4.741

R Core Team. (2020). *R: A language and environment for statistical computing* (4.0.0).

Zakrisson, I. (2005). Construction of a short version of the Right-Wing Authoritarianism (RWA) scale. *Personality and Individual Differences*, *39*(5), 863–872. https://doi.org/10.1016/j.paid.2005.02.026