



Concealability Beliefs Facilitate Navigating Intergroup Contexts

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Abstract

Living in a diverse world requires the ability to navigate intergroup contexts. However, interacting with outgroup members can cause anxiety that leads to lower-quality interactions and avoidance of future contact. One reason people experience this anxiety is the concern that others will judge them on the basis of an identity. These concerns may be reduced among people who believe the identity is unperceivable by others. The belief that one's identity is concealable may therefore reduce intergroup anxiety and ease people's experiences in intergroup contexts. The present work tests this proposition in two studies and finds that individual differences in concealability beliefs are negatively associated with intergroup anxiety and positively associated with the propensity to initiate intergroup contact and with the quantity and quality of people's cross-group friendships. Materials, data, and code for both studies are available online (<http://bit.ly/2lPnA7w>), as is a pre-registration for Study 2 (<http://bit.ly/2nSQ7K8>).

Keywords: Intergroup relations, intergroup anxiety, intergroup contact, concealable identities, stigma

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Interacting with people from other groups (“intergroup contact”) is a common part of life for many. However, both minority and majority group members experience anxiety when they interact with outgroup members (Stephan & Stephan, 1985). Unsurprisingly, experiencing anxiety in intergroup settings is associated with worse experiences in those settings and less desire to engage in intergroup contact at all (Cole & Yip, 2008; Plant & Butz, 2006; Plant & Devine, 2003; Stephan, 2014). The goal of the present research is to understand one factor that may contribute to people’s experiences navigating intergroup settings. Specifically, we propose, test, and find that individual differences in people’s beliefs about the concealability of their own identities (“subjective identity concealability”) are associated with less anxiety in intergroup interactions, greater willingness to initiate intergroup contact, and higher quality and quantity of intergroup contact.

Anxiety in Intergroup Contexts

Intergroup anxiety is anxiety derived from the fear of negative consequences resulting from interacting with outgroup members (Stephan & Stephan, 1985). A number of features of intergroup interactions give rise to intergroup anxiety. One factor of relevance to the present work is the fear of negative evaluation from an outgroup member on the basis of an unshared identity. For example, minority group members may fear being evaluated negatively in light of a stereotype about their group (Steele, Spencer, & Aronson, 2002). This fear is not unique to minority group members; majority group members may also fear being judged negatively on account of their unshared identity, such as being assumed to be prejudiced against members of minority groups (Goff, Steele, & Davies, 2008; Plant & Butz, 2006; Shelton, 2003).

Intergroup anxiety has wide-ranging consequences for those who experience it. For example, it amplifies people’s emotional reactions (Binder et al., 2009; Butz & Plant, 2006; Stephan & Stephan, 1985; Trawalter, Adam, Chase-Lansdale, & Richeson, 2012; Van Zomeren, Fischer, & Spears, 2007) and increases reliance on cognitive biases such as stereotypes (Stephan & Stephan, 1985). Intergroup anxiety also reduces the quality and quantity of people’s intergroup contact (Cole & Yip, 2008; Plant & Butz, 2006; Plant & Devine, 2003; Stephan, 2014). For all these reasons, understanding the factors that underlie people’s engagement in high-quality intergroup contact and its antecedents is a crucial pursuit.

Subjective Identity Concealability

Recent work has revealed one factor that may influence people's experiences in intergroup contexts is individual differences in people's beliefs about the concealability of their own identities. Specifically, people who believe an identity they hold is relatively more concealable are lower on intergroup anxiety (Le Forestier, Page-Gould, Lai, & Chasteen, in prep). Why might this be? In instances where an identity is not plainly visible, identity concealment offers a respite from some of the tensions in intergroup interactions. Because perceiving an identity is a precondition for its judgment, people who believe an identity they hold is concealable may not fear as much judgment on the basis of it. As a result, intergroup anxiety experienced on the basis of that identity is attenuated compared to anxiety experienced by someone who believes an identity they hold is perceivable. The belief that one's own identity is concealable therefore shields people from intergroup anxiety.

Recent work on scale development and validation has shown subjective identity concealability to be a coherent, unidimensional construct, distinct from other constructs already in the social psychological literature (Le Forestier et al., in prep). In contrast to work on subjective identity concealability, other research on concealable identities has primarily focused on concealment *behavior*. Concealment-related constructs already well-known to social psychologists generally reflect either the behaviors enacted to prevent an identity from becoming known or reflect the absence or presence of previous disclosure (see for example, "active concealment;" Quinn, Weisz, and Lawner (2017), "outness;" Mohr and Fassinger (2000), and "non-disclosure;" Jackson and Mohr (2016)). Subjective identity concealability differs from these in its focus, as it focuses on factors that influence people's *beliefs* about their ability to conceal. These are qualitatively distinct: someone could believe himself or herself to be able to conceal an identity, but not engage in actual concealment. They are also quantitatively distinct: recent work has found only 11% shared variance between the two, indicating that concealment behavior and beliefs are related but distinct (Le Forestier et al., in prep).

Subjective identity concealability is also distinct from other more general beliefs people may hold about themselves, including but not limited to self-monitoring, emotion regulation, and general self-efficacy. Previous work has found no significant correlations between subjective identity concealability and any of these, supporting our contention that subjective identity

concealability reflects a specific belief about the ease or difficulty of concealing an identity (Le Forestier et al., in prep).

Subjective Identity Concealability and People's Intergroup Experiences

Although subjective identity concealability predicts reduced intergroup anxiety, the question of whether it also predicts people's experiences of intergroup contact has not been tested. In this paper, we will specifically test the relationships between subjective identity concealability and two features of intergroup contact: proneness to initiate intergroup contact and the quality and quantity of people's cross-group friendships.

First, we propose that people who believe an identity is concealable should report greater proneness to initiating intergroup contact with outgroup members. Initiation of intergroup contact is relevant because initiation is the opposite of avoidance, the exact behavior to which intergroup anxiety leads (Pancer, McMullen, Kabatoff, Johnson, & Pond, 1979; Plant & Butz, 2006; Plant & Devine, 2003). It is also the feature of intergroup contact most directly under an individual's control. While other features of contact rely on factors outside any individual's direct control—such as the diversity of the region in which they live or others' willingness to engage in contact with them—proneness to initiate intergroup contact may be a relatively more direct function of someone's comfort in intergroup settings.

Second, we propose that people who believe an identity is concealable should have a larger number of higher-quality cross-group friendships. We expect concealability beliefs to affect this because initiation is a prerequisite for friendship formation (Hallinan, 1978). If concealability beliefs facilitate initiation of intergroup contact, they may also facilitate cross-group friendships. Furthermore, because people who believe an identity they hold is concealable are less anxious in intergroup settings, they may also experience higher-quality friendships with outgroup members due to the lifted burden of anxiety.

Role of Focal Identity

In addition to assessing whether the relationship between subjective identity concealability and intergroup anxiety extends to intergroup contact, a second goal of the present research is to explore whether these relationships are stable across identities and across the degree of stigmatization of these identities. For the former, we expected that subjective identity concealability would relate to the consequences of fearing identity-based judgment across groups. For the latter, we did not have an *a priori* hypothesis about the role the experience of

being a member of a stigmatized group may play in the relationship between subjective identity concealability and intergroup anxiety. However, competing predictions may be made concerning this question.

Why would we expect to see differences in the effects of subjective identity concealability for people reporting on stigmatized versus non-stigmatized identities? While anyone may experience challenges in intergroup interactions, there is reason to expect that they may be greatest for those reporting on a stigmatized identity. This is because members of stigmatized groups may have more “at stake” when their identity is known by others. Goffman (1963) described people with stigmatized identities that are not known to others as “discreditable.” According to this perspective, discreditable people stand to lose their social status should their stigmatized identity be discovered by others, whereas members of non-stigmatized groups typically stand to lose relatively little should their non-stigmatized identity be discovered. The mitigatory effect of subjective identity concealability on the threat of one’s group membership being perceived may therefore be experienced most intensely by those reporting on stigmatized identities.

Alternatively, why would we not expect to see differences in the effects of subjective identity concealability for people reporting on stigmatized versus non-stigmatized identities? While it is certainly true that members of stigmatized groups have more “at stake” in intergroup interactions, that does not mean there is *no* reason that majority group members’ experiences in intergroup contexts could be affected by their concealability beliefs. Intergroup contexts can breed intergroup anxiety for anyone, including majority-group members (Stephan & Stephan, 1985). Furthermore, although engaging in actual concealment behavior has largely been studied in the context of members of stigmatized groups, there is no reason to believe that members of majority groups would lack the ability to reflect on the ease or difficulty of concealing their majority-group identity. Therefore, although members of minority groups perhaps have more to lose, it is possible that the construct of subjective identity concealability may be relevant to any identity—stigmatized or not—and could reduce intergroup anxiety and therefore promote positive intergroup experiences for anyone. This research will therefore be the first to contrast the effects of subjective identity concealability for majority and minority group members, providing the first quantitative test of this question.

Overview of Present Research

In the present work, we examine whether the correlates of subjective identity concealability extend to features of intergroup contact and whether the effects are stable across groups and experience of stigmatization. In Study 1, we conduct secondary analyses of data previously collected as part of a different study to explore the role of identity category in the relationship between concealability beliefs and intergroup anxiety for participants reporting on identities they had identified as desirable to conceal. In Study 2, we test the relationship between subjective identity concealability and features of intergroup contact in a pre-registered extension of findings from Study 1. In Study 2, we also employ multiple groups analysis to further explore the role of identity category in these processes and test whether stigmatization moderates the observed effects. Together, these studies seek to examine whether and for whom a belief in the concealability of one's own identities is associated with less anxiety and greater facility in navigating intergroup environments.

Study 1

Data for Study 1 were drawn from a dataset previously collected for confirmatory factor analysis as part of a scale development project (Le Forestier et al., in prep). In the same project, these data contributed to an internal meta-analysis that found that subjective identity concealability correlated negatively with intergroup anxiety. Participants reported on one of five possible identity categories. Participants chose which identity to report on by selecting an identity they sometimes wished to conceal and analyses were conducted collapsing across identities.

The original analytic choice to analyze across identities reflected our theoretical orientation that subjective identity concealability may have palliative effects for people across many identities. This assumes that the relationship between subjective identity concealability and intergroup anxiety is consistent across identity category. However, this assumption has yet to be empirically tested. In the present study, we therefore aim to provide the first test of whether the relationship between subjective identity concealability and intergroup anxiety is stable across different categories of identities (e.g., sexual orientation, religion, etc.), as well as to rule out the possibility of group differences as accounting for the effects. Such analyses were not previously feasible due to the design of other studies included in the internal meta-analysis to which these data contributed. The present study therefore re-analyzes these data within, rather than across, identity category, and uses a bootstrapping approach with model comparison to estimate and

compare effect sizes between identities. This approach allows us to account for the non-normality of sampling distributions for effect sizes and make inferences about both significant and null findings.

Because participants chose an identity they wished to conceal, results for this study should be interpreted as reflecting the association between subjective identity concealability and intergroup anxiety among participants concerned with the presentation of that identity.

Method

Participants. Secondary data for this project were drawn from a previously-collected sample of 1,612 participants which had been collected through Project Implicit's online study pool (<https://implicit.harvard.edu>). Although this sample size was originally chosen for confirmatory factor analysis, without these specific analyses in mind, its large size, combined with the relatively small number of identities from which participants could choose to report on, allows for within-groups analyses that are still well-powered to detect small-to-medium effects. From there, one hundred and forty-four participants (9%) were excluded due to missing data from participants who did not respond to at least one of the items corresponding with the main measures. These were dealt with through listwise deletion. Two hundred thirty additional participants (14%) were excluded for failing at least one of two attention checks (see “Attention checks” below), and 226 additional participants (14%) were excluded for providing unusable answers to the crucial identity prompt (see “Identity prompt”, below for description of how this item was used). Participants in this study were able to choose the category of identity on which they reported, following the procedure laid out under “Identity prompt,” and no further actions were taken on the part of the researchers to guide this process. Because responses to the identity prompt were subsequently piped into sentences in other parts of the study, it was important that participants provided an answer that would lead to coherent sentences. Therefore, participants who responded with something that would undermine the coherence of future parts of the study were excluded. These included, for example, participants who responded with a sentence instead of a single word or very short phrase and participants who responded with something other than the identity on which they had chosen to report (e.g., “savvy traveler” within the category to “age”). This left a final sample of 1,012 participants (64.43% European ethnic origin, 68.18% female, $M_{age} = 32.93$ years, $SD = 14.96$ years; see Table 1 for full demographic details). Excluded participants did not differ from included participants on age ($t(1593) = -0.13, p = .897$)

or sex ($\chi^2(2, N = 1604) = 4.38, p = .112$). However, they did differ on ethnic origin ($\chi^2(9, N = 1596) = 42.21, p < .001$). Post-hoc pairwise comparisons indicated that participants of European ethnic origin were more likely to be included ($p < .001$) and participants who selected “Other” were more likely to be excluded ($p < .001$). No other pairwise comparisons were significant.

Procedure. After providing consent, participants were presented with a demographic questionnaire and two questions about an identity that they wanted to conceal. Then, participants completed survey measures assessing their subjective identity concealability and intergroup anxiety. Additional measures other than those outlined here were also administered as part of the original study for which these data were collected. These are not reported here, as they fall outside the scope of the present work. To see additional measures not reviewed here, as well as complete materials for all measures including the Subjective Identity Concealability Scale, see the Open Science Framework page: <http://bit.ly/2lPnA7w>.

Measures.

Demographics. Participants reported their age, sex, gender identity, ethnic origin, biracial status, sexual orientation, and religion, and rated how urban or rural their place of residence is.

Identity prompt. In order to tailor future questions to participants’ own identities, participants were asked two questions about an identity they held and wished to conceal. First, participants responded to the following prompt: “Sometimes, people wish they could conceal a part of themselves from others. That is, they wish they could control whether others knew a specific piece of information about them. Please read through this list of identities and choose one that you have sometimes felt that you wanted or needed to conceal from others.” Participants chose one option from five possibilities: age, job, political ideology, religion, and sexual orientation. These were chosen because previous work has found that people believed these were at least moderately concealable (Le Forestier et al., in prep), increasing the likelihood that questions about concealability would seem relevant in their context. After choosing one of these options, participants were asked, “What specific label or name would you use to describe your [identity category]?” Participants’ open-ended responses to this question were subsequently piped into future questions as idiographic stimuli.

Subjective identity concealability. The 8-item Subjective Identity Concealability Scale ($\alpha = .89$, 95% CI [.88, .90]; example items: “How easy is it for you to conceal that you are [identity]?”; “How visible is the fact that you are [identity]?”; and “How quick are people to

figure out that you are [identity]?”; Le Forestier et al., in prep) was administered to assess people’s lay beliefs about the concealability of their identity. For each participant, the “[identity]” placeholder was replaced by their response to the open-ended identity prompt. Participants responded on five-point scales anchored by response options “0-Not at all” and “4-Extremely” and scores were computed by taking a mean of the eight items after reverse-scoring all items but one so that higher scores would indicate greater concealability ($M = 2.39$, $SD = 0.89$). For within-groups descriptive statistics, see Table 2.

Intergroup anxiety. Ten items adapted from Stephan and Stephan (1985; $\alpha = .85$, 95% CI [.84, .87]) were administered to assess intergroup anxiety. Participants responded ten times to the following prompt: “If you were interacting with a group of people (e.g., talking with them, working on a project with them, etc.) and you were the only [identity] person in the group, how would you feel compared to occasions when you are interacting with other people who are [identity]?” Response options varied for each question to present participants with a variety of potential emotional responses (e.g., “awkward,” “self-conscious,” “happy,” etc.). Participants were asked to report how much of each emotion they would feel on five-point scales anchored by response options “0-Not at all” and “4-Extremely.” Scores were means of all ten items after reverse-scoring three items so that higher scores would correspond with greater levels of anxiety ($M = 1.35$, $SD = 0.69$). Within-groups descriptive statistics are included in Table 2.

Attention checks. Two attention checks were administered. The first provided participants with the prompt: “For this question, choose ‘slightly.’” This prompt was administered at a random place within the Subjective Identity Concealability Scale and participants were provided with the same response options as for the rest of the scale. One hundred and ninety-four participants (12%; already reported under “Participants”) chose an option other than “slightly” and were therefore excluded. For the second attention check, participants responded to the prompt “At the start of the survey, you told us which one of your traits you most frequently wished you could conceal. Which trait was it?” Participants chose from the same response options as the initial identity prompt. Thirty-six additional participants (2%; also previously reported under “Participants”) chose an identity different from the one they had originally selected and were excluded.

Data preparation. Both scales were tested for skew using the psych package in R (Revelle, 2018). Neither scale had a skew greater than 1 or smaller than -1, so no transformations were applied.

Analyses and Results

All analyses for this study, as well as Study 2, were conducted in R version 3.5.1 (R Core Team, 2018).

Correlation between subjective identity concealability and intergroup anxiety. First, we conducted a bivariate correlation between subjective identity concealability and intergroup anxiety within each identity category individually. The effect was significant and negative within each category. The largest effect size was for participants reporting on their religious identity, $r(189) = -.32, p < .001, 95\% \text{ CI } [-.44, -.18]$, followed by jobs, $r(90) = -.30, p < .01, 95\% \text{ CI } [-.48, -.10]$, age, $r(219) = -.26, p < .001, 95\% \text{ CI } [-.38, -.14]$, political ideology, $r(369) = -.26, p < .001, 95\% \text{ CI } [-.35, -.16]$, and sexual orientation $r(135) = -.23, p < .01, 95\% \text{ CI } [-.39, -.07]$. To assess whether these effect sizes were significantly different from each other, bootstrapped 95% confidence intervals were computed using 1,000 bootstrapped samples for each of the five estimates. There was a great deal of overlap between each of the estimates, suggesting that the effect sizes were not significantly different from each other and that the association between subjective identity concealability and intergroup anxiety was consistent across all five groups (see Figure 1).

To further probe this finding, we ran two linear models: (1) predicting intergroup anxiety from identity concealability, identity category, and their interaction, which was significant, $F(9, 1002) = 17.39, p < .001, R^2 = .14$; and (2) predicting intergroup anxiety from identity concealability and identity category (i.e., only considering identity category as a covariate, not a moderator), which was also significant, $F(5, 1006) = 30.97, p < .001, R^2 = .13$. To enable these analyses, we created dummy-coded variables from the identity categories, using sexual orientation as the reference group. Because we hypothesized the relationship between intergroup anxiety and identity concealability would not be moderated by identity category, we used a Bayesian Information Criterion (BIC)-based model comparison to evaluate the null hypothesis. The moderated model had a higher BIC ($BIC = 2039.02$) than the unmoderated model ($BIC = 2013.30; \Delta BIC = 25.72$). A delta of this size indicates very strong evidence in favor of the unmoderated model (Raftery & Kass, 1995), lending further support to the assertion that the

relationship between subjective identity concealability and intergroup anxiety is not qualified by identity category.

Discussion

The relationship between subjective identity concealability and intergroup anxiety was consistently negative across all five identity categories, suggesting that the relationship between concealability and intergroup anxiety is a general psychological process that applies across a broad range of identities. This result also informs our expectations about the identities for which we would expect such effects to emerge in the future. However, because participants in this study were reporting on an identity they sometimes wished to conceal, it is possible that this may only be true to the extent that someone sees the identity they hold as being stigmatized. Whether these results would also generalize beyond that population cannot be assessed in the present data.

Study 2 built on these results in two ways. First, we investigated the relationship between subjective identity concealability and features of intergroup contact, which is known to follow from intergroup anxiety. Second, we did so using a sample of participants randomly assigned to report on an identity instead of reporting on an identity of their choosing. This allowed us to assess the extent to which these effects are specific to members of stigmatized groups or generalize more broadly. Because results in Study 1 generalized across identity category, we will continue investigating these processes using a heterogeneous set of identities to maximize the generalizability of our design.

Study 2

Study 1 found the relationship between subjective identity concealability and intergroup anxiety was stable across identity category. The present study tested whether subjective identity concealability is also associated with features of intergroup contact. To the extent that believing an identity one holds is concealable attenuates intergroup anxiety, it should also increase the extent to which people pursue intergroup contexts and ease their experiences in them, such as experiences of intergroup contact.

The present study is a pre-registered extension of Study 1. Here, we tested the association between subjective identity concealability and features of intergroup contact for the first time. We additionally tested whether a theoretically-predicted mechanism—intergroup anxiety—mediated the relationship between subjective identity concealability and features of intergroup contact. Finally, as participants in this study were assigned to report on either their sexual

orientation, religion, or age, we submitted our model to multi-groups analysis to explore the consistency of the results across identity categories.

In addition to our pre-registered tests, we also explored the role of stigmatization in these processes. Although we did not have *a priori* hypotheses related to the role that reporting on a stigmatized versus a non-stigmatized identity might play, one previously-unexplored possibility is that the experience of stigmatization may exacerbate the threat of perceivability, rendering the palliative effects of concealability stronger. Alternately, because of the ubiquity of intergroup anxiety, it is also possible that the effects of subjective identity concealability may generalize beyond members of stigmatized groups. Because previous studies elicited focal identities by asking participants about an identity they wished to conceal, it is likely that these were identities that participants felt were at least somewhat stigmatized. Because this was not the case in the present study, we are able to test this question for the first time, using data from participants reporting on both stigmatized and non-stigmatized identities.

Method

Participants. As in Study 1, participants were recruited through Project Implicit's online subject pool. Sample size was determined through Monte Carlo simulation using the method detailed in Schoemann, Boulton, and Short (2017). We powered our design for 80% power at $\alpha = .05$, using anticipated effect sizes informed by previous work, where possible, and specifying smallest effect sizes of interest where anticipated effect sizes were not available¹. This power analysis yielded a desired sample size of 215 participants. Because participants in this study were randomly assigned to answer questions about one of three focal identity groups, we multiplied this number by three to enable multi-groups analysis for a desired sample of 645 participants. Finally, we multiplied this planned sample by 1.20 in anticipation of exclusions due to failed attention checks and missing data for a total recruitment goal of 774 participants.

Although there were no specific pre-selection criteria, religious minority participants (religious participants who identify with a religion other than Christianity, including Catholics) were oversampled in the religion group, as were older adults (adults over 60 years of age) in the age group. This is because these were two of the focal identities in this study and so diverse samples of participants responding about these identities were desirable. Minimum quotas of 65 participants before exclusions from each of these groups were set. The Project Implicit pool does

not pre-screen on the basis of sexual orientation, so no minimum quota was set for any group for that identity category.

In total, data were collected from 781 participants. One hundred thirty-eight participants (18%) were removed from the dataset through listwise deletion due to missing data resulting from participants who did not provide responses to at least one of the main measures. Fifty-one additional participants (7%) failed the attention check and were removed (see “Attention check” below), leaving a final analytic dataset of 592 participants (59.97% European ethnic origin; 66.22% female; $M_{age} = 42.19$ years, $SD = 17.00$ years, see Table 3 for full demographic details). Excluded participants did not differ from included participants on age ($t(762) = -1.56$, $p = .119$), sex, ($\chi^2(2, N = 770) = 3.93$, $p = .140$), or ethnic origin ($\chi^2(35, N = 771) = 44.72$, $p = .126$).

In this study, participants were assigned to report on one of three types of identities: age ($n = 240$), religion ($n = 158$), or sexual orientation ($n = 194$). For participants reporting on their age, the distribution of age groups was: 3 teenagers, 65 young adults, 95 middle-aged adults, and 77 older adults. For participants reporting on their religion, the distribution of religions was: 24 agnostics, 26 atheists, 8 Buddhists, 25 Catholics, 46 Christians, 4 Hindus, 12 Jews, 12 Muslims, and 1 Taoist. For the sexual orientation group, the distribution of sexual orientations was: 3 asexual people, 13 bisexual people, 2 homosexual people, 4 lesbian people, 6 pansexual people, and 166 heterosexual people.

Procedure. After consenting, participants completed a general demographic questionnaire. They were then assigned to report on one of three different identities: their sexual orientation, their religion, or their age. Participants then responded to questionnaires about their concealability beliefs, intergroup anxiety, and intergroup contact, each of which was tailored to the identity category on which the participant was assigned to report.

Measures.

Demographics. Participants reported their age, sex, ethnic origin, sexual orientation, religion, and age group. Participants were randomly assigned to focal identity and their response to the corresponding question from the demographic questionnaire was piped into subsequent questions to ensure that participants were being asked about an identity they actually held.

Subjective identity concealability. The same 8-item scale ($\alpha = .89$, 95% CI [.88, .90]) was used as in Study 1 ($M = 1.86$, $SD = 0.99$). Within-groups descriptive statistics are included in Table 4.

Intergroup anxiety. The same 10-item measure ($\alpha = .83$, 95% CI [.81, .85]) used in Study 1 was repeated again here ($M = 0.81$, $SD = 0.55$). Within-groups descriptive statistics for intergroup anxiety are also included in Table 4.

Quantity and quality of cross-group friendships. To measure the quantity and quality of participants' cross-group friendships, a measure was adapted from Smith (2002) and Page-Gould, Mendoza-Denton, Alegre, and Siy (2010). Participants were asked to list their 6 closest friends and then asked to rate how close they felt to each of these friends on 7-point scales anchored by response options "1-Not close at all" and "7-Extremely close." Finally, participants were asked to indicate the demographic trait of each friend corresponding to the identity category on which the participant was assigned to report. To score the measure, the closeness scores for each cross-group friend (i.e., each friend who did not share the participant's demographic trait for the focal identity) were added together so that higher scores would correspond with larger numbers of higher-quality cross-group friendships ($M = 9.31$, $SD = 9.92$). Participants who reported no cross-group friends received a score of zero because there were no cross-group friends' closeness scores to sum. This was particularly common in the age and sexual orientation conditions. This is unsurprising, given the high degree of age segregation in contemporary society (Hagestad & Uhlenberg, 2005; Uhlenberg & De Jong Gierveld, 2004), and that the majority of our sample reporting on sexual orientation was from the majority group (heterosexual people), which means they have fewer opportunities to interact with outgroup members, who are by definition in the numerical minority. Friends whose focal identity participants indicated not knowing were not coded as cross-group, and their associated closeness scores were therefore not included in the calculation. As with other variables, within-groups descriptive statistics are included in Table 4.

Initiation of intergroup contact. To measure how prone participants were to initiating intergroup contact, a novel 7-item measure was constructed (example items: "I am comfortable starting conversations with people who are not [identity]" and "I try to avoid people who are not [identity]" (reverse-scored); see Appendix 1 for the full scale). Participants responded on 7-point scales anchored by response options "-3-Strongly disagree" and "3-Strongly agree." The scale had good internal reliability ($\alpha = .74$, 95% CI [.71, .78]). Initiation of intergroup contact scores were calculated by taking a mean of the seven items after reverse-scoring two items so that higher scores would indicate greater inclination to initiate intergroup contact ($M = 1.49$, $SD =$

1.01). Within-groups descriptive statistics are also included for initiation of intergroup contact in Table 4.

To assess the measure's construct validity, a bivariate correlation was computed between it and the raw number of friends identified as not sharing the participant's focal identity (i.e., taking the "quantity" component only of the "quantity and quality of cross-group friendships" measure, described above). This is because it is expected that someone who initiates more intergroup contact would also have more cross-group contact. The novel measure of initiation of intergroup contact correlated positively with the quantity of participants' cross-group friends, $r(590) = .24, p < .001, 95\% \text{ CI } [.17, .32]$.

Attention check. The same attention check as the first attention check from Study 1 was administered here, with the exception that participants were asked to choose "Quite a bit" instead of "Slightly." The attention check was again administered at a random place within the Subjective Identity Concealability Scale.

Stigmatized group status. To enable exploratory analyses regarding the role of stigma, participants were coded as either 1 (Member of a stigmatized group) or -1 (Not a member of a stigmatized group) according to the focal identity they provided. Decisions about which identities were considered stigmatized and which were not were made post-hoc by the first author. Analyses involving this variable should therefore be interpreted cautiously and as exploratory.

For participants reporting on their sexual orientation, heterosexual participants were coded as non-stigmatized and all other respondents (i.e., asexual, bisexual, homosexual, lesbian, and pansexual participants) were coded as stigmatized. For participants reporting on their religious identity, Christians, including Catholics, were coded as non-stigmatized, and participants from other groups (i.e., atheist, agnostic, Buddhist, Hindu, Jewish, Muslim, and Taoist participants) were coded as stigmatized². Finally, for participants reporting on their age, participants who self-identified as teenagers, young adults, or older adults were coded as stigmatized, while participants who identified as middle-aged adults were not. Although young adults, atheists, and agnostics may not be considered stigmatized by some, ample research suggests that they face stigma alongside other groups (Abbott & Mollen, 2018; Ayalon, 2013; Bratt, Abrams, Swift, Vauclair, & Marques, 2018; Chasteen, Horhota, & Crumley-Branyon, in press; Gervais, Shariff, & Norenzayan, 2011; Raymer, Reed, Spiegel, & Purvanova, 2017). This

ambiguity nonetheless highlights the need for pre-registered verification of the results including this variable. Alternate analyses including these groups in the non-stigmatized group are presented in the online supplement, where we find results that are generally consistent with those reported here. Overall, our sample contained somewhat more participants reporting on non-stigmatized ($n = 332$) than stigmatized ($n = 260$) identities. Within-groups descriptive statistics for key variables are included for participants classified as stigmatized and non-stigmatized in Table 4.

Data preparation. The same tests were performed as those in Study 1. As in Study 1, no measures violated our pre-set thresholds, so no transformations were applied to the data.

Analyses and Results

Replication of previous effects.

Subjective identity concealability and intergroup anxiety. First, we sought to replicate the effect from Study 1 that subjective identity concealability is negatively related to intergroup anxiety. To test the association, a bivariate correlation was computed between the two variables, yielding $r(590) = -.12, p < .01, 95\% \text{ CI } [-.20, -.04]$.

Intergroup anxiety and intergroup contact. Second, a well-established relationship in the contact literature is that between intergroup anxiety and intergroup contact (Stephan, 2014; Stephan & Stephan, 1985). Using bivariate correlations, we replicate this effect across both contact variables: our novel measure of initiation of intergroup contact, $r(590) = -.51, p < .001, 95\% \text{ CI } [-.57, -.45]$ and quantity and quality of cross-group friendships, $r(590) = -.13, p = .001, 95\% \text{ CI } [-.21, -.05]$.

Concealability and intergroup contact. The main prediction was that people higher on subjective identity concealability would also score higher on features of intergroup contact. Supporting our prediction, we found a significant, positive relationship between subjective identity concealability and proneness to initiating intergroup contact, $r(590) = .24, p < .001, 95\% \text{ CI } [.17, .32]$, and a significant, positive relationship between subjective identity concealability and the quantity and quality of people's cross-group friendships, $r(590) = .41, p < .001, 95\% \text{ CI } [.34, .48]$.

Path Analysis. We also predicted that reductions in intergroup anxiety would mediate the relationship between subjective identity concealability and initiation of intergroup contact as well as quality and quantity of cross-group friendships. We tested this prediction using path

analysis with the lavaan package in R (Rosseel, 2012). Intergroup anxiety partially mediated the relationship between subjective identity concealability and initiation of intergroup contact (24% of the effect was mediated; the indirect effect was significant, $z = 2.87, p < .01$). However, we did not find significant evidence of intergroup anxiety mediating the relationship between subjective identity concealability and quantity and quality of cross-group friendships (2% of the effect was mediated; the indirect effect was not significant, $z = 1.81, p = .07$; see Figure 2 for path diagram). Because this model was saturated (i.e., the number of estimated parameters versus observed variables was such that the model had no remaining degrees of freedom, which is true of all mediation models) meaningful fit statistics could not be calculated.

In order to assess model fit, and in response to the fact that we only found evidence for mediation for one of two outcome measures, we departed from our pre-registered model by dropping the mediation for the quantity and quality of cross-group friendships outcome variable. This freed up a previously-used degree of freedom, allowing the calculation of fit statistics. This model fit well, $SRMR = .03$, $CFI = .99$, $RMSEA = .09$, 90% CI [.03, .16], indicating that the data were consistent with the model, although the RMSEA was somewhat high (Kline, 2011). For a visualization of the updated model, see Figure 3.

Multiple groups analysis. To assess whether the same model fit well across identities, we undertook multiple groups analysis. We first constructed the configural model to assess whether the same model fit well across groups, specifying focal identity as the grouping variable. This model yielded good fit on two of three indices, $SRMR = .04$, $CFI = .96$, $RMSEA = .15$, 90% CI [.08, .22], following benchmarks from Kline (2011). The model fit well for participants reporting on their sexual orientation ($\chi^2(3) = .18$) and religion ($\chi^2(3) = 2.64$), but fit less well for participants reporting on their age ($\chi^2(3) = 12.90$; for a summary of all within-groups paths, see Table 5. Notably, neither the total ($\beta = .09, z = 1.45, p = .15$) nor direct ($\beta = .02, z = .32, p = .75$) effect of subjective identity concealability on initiation of intergroup contact were significant for the age group, whereas both were significant for the religion and sexual orientation groups. These results suggest that concealability beliefs may play a lesser role in the context of age than in the context of other identities. Because model fit was not consistently strong, we did not proceed with the additional stages of multiple-groups analysis.

Effect of Stigma. Exploratory analyses were conducted investigating the effect of reporting on a stigmatized versus non-stigmatized identity. These analyses were not pre-

registered and we did not have strong *a priori* hypotheses associated with them. They should therefore be treated as exploratory and interpreted cautiously.

To assess model fit across groups, we assessed a configural model again, this time entering stigmatized status as the grouping variable. Like the previous multi-group analysis, this model achieved good fit on two of three indices, $SRMR = .04$, $CFI = .96$, $RMSEA = .15$, 90% CI [.08, .22] (Kline, 2011). All paths were significant for participants reporting on stigmatized identities. For participants reporting on non-stigmatized identities, neither the path from subjective identity concealability to intergroup anxiety ($\beta = -.07$, $z = -1.30$, $p = .19$) nor the indirect effect of subjective identity concealability on initiation of intergroup contact ($\beta = .04$, $z = 1.29$, $p = .20$) were significant. In most cases, the path coefficients were somewhat larger for participants reporting on stigmatized identities (see Table 6 for all paths). However, evidence of significant moderation by stigmatized status was only found for the relationship between subjective identity concealability and quantity and quality of cross-group friendships ($\beta = .16$, $z = 3.05$, $p < .01$), such that subjective identity concealability was particularly predictive of the quantity and quality of cross-group friendships for participants reporting on stigmatized identities. For a summary of all paths, see Table 6.

Discussion

In this study, we again found that subjective identity concealability correlates negatively with intergroup anxiety, albeit to a smaller degree than in Study 1. One reason we may have found a smaller effect of intergroup anxiety in this study than in Study 1 is that, while focal identities were elicited by asking participants about an identity they wished to conceal in Study 1, implying that they viewed that identity as at least somewhat stigmatized, participants in Study 2 were randomly assigned to report on one of three pre-selected identities. To the extent that the effects of subjective identity concealability may be stronger among members of stigmatized than non-stigmatized groups, the inclusion of people reporting on identities on the basis of which they do not feel stigmatized in Study 2 may have decreased the effect size. Partial support for this account was found by assessing whether stigmatized status moderated the relationship between subjective identity concealability and intergroup anxiety; the effect among participants reporting on a stigmatized identity ($r = -.23$) was descriptively larger than the effect among participants reporting on a non-stigmatized identity ($r = -.07$). However, the interaction term for this relationship was not significant ($\beta = -.16$, $z = -1.96$, $p = .05$).

We also found that subjective identity concealability was significantly associated with multiple features of intergroup contact. This finding is consistent with our pre-registered hypothesis and extends research on the correlates of subjective identity concealability to a variable reflecting a real-life outcome—the composition of people’s friendship networks—for the first time. This finding adds to support for our hypothesis that subjective identity concealability may buffer people from the stressful elements of intergroup interactions.

Intergroup anxiety partially mediated the relationship between subjective identity concealability and initiation of intergroup contact, but not people’s quantity and quality of cross-group friendships. One possible reason for this is that people’s willingness to initiate intergroup contact may be a more direct function of people’s attitudes and beliefs than is the quantity and quality of their cross-group friendships. In contrast, the quantity and quality of people’s cross-group friendships is more strongly affected by interpersonal processes (e.g., a friendship requires *other* people to also be comfortable) and structural factors (e.g., neighborhood segregation). The contribution of interpersonal and structural factors may reduce the relative importance of intergroup anxiety as a potential mediator for the quantity and quality of cross-group friendship outcome.

A related possibility concerns measurement correspondence: Our measure of intergroup anxiety is more closely matched to our measure of initiation of intergroup contact than with our measure of quantity and quality of cross-group friendships. Both the measure of intergroup anxiety and that of initiation ask participants to report on their preferences and feelings, whereas the quantity and quality measure asks participants to report on their observed experiences.

We found that our model holds well across religion and sexual orientation, but not age. However, the paths were significant and directionally consistent in nearly all cases and we observed generally good model fit when focal identity was entered as a grouping variable. This provides partial support for our contention that processes related to concealability beliefs and the costs of fearing identity-based judgment likely generalize across focal identity. The poor model fit for age suggests that the dynamics of concealability, intergroup anxiety, and intergroup contact may differ for age versus religion and sexual orientation. Future work is therefore needed to clarify whether there are categories of concealable identities to which we would not expect the effects of subjective identity to generalize.

We additionally explored whether the effects of subjective identity concealability are stronger for people with stigmatized identities. Although significant moderation was only found for one of three dependent variables, each of the effects was descriptively larger among members of stigmatized groups than members of non-stigmatized groups, and in most cases, paths between subjective identity concealability and its dependent variables were not significant among members of non-stigmatized groups alone. In general, this pattern of results suggests that subjective identity concealability may be somewhat more relevant when a person is stigmatized and therefore has more to lose from being identified as a member of that group. Despite this, a significant effect of subjective identity concealability was found for members of non-stigmatized groups on at least one dependent variable (quality and quantity of cross-group friendships), indicating that at least in some cases, concealability beliefs may be relevant in the absence of stigmatization. It is worth noting, however, that the groups deemed “stigmatized” were determined post-hoc.

Furthermore, it is possible that no specific categorization of identities as “stigmatized” or “non-stigmatized” may be the most appropriate operationalization of stigma in this context. Rather, participants’ subjective experiences of stigmatization on the basis of their identities may be more appropriate. In the present work, we have taken the approach that demographic traits provide a proxy measure of who is most likely to experience stigma (e.g., we determined that homosexual people were more likely to experience stigma than heterosexual people). Ultimately, however, it is the experience of stigma itself, rather than its demographic proxy, in which we are interested. Furthermore, social psychologists have long recognized that individuals may have varying responses to holding the same identity and to that identity’s stigmatization (e.g., Pinel, 1999). Future work should address these limitations by specifying sets of stigmatized and non-stigmatized groups *a priori* or by assessing participants’ feelings of stigmatization directly through self-report or reports of daily experiences.

One limitation of the current study is a final sample that is somewhat smaller than our desired sample (592 versus 645 participants) because of greater-than-expected exclusions from some identity categories. This is particularly relevant to the religion group, for which usable data were only provided by 158 participants. However, small differences such as these do not meaningfully undermine our ability to interpret the results because our power analysis was

partially based on conservative smallest effect sizes of interest rather than on anticipated effect sizes.

An additional limitation of the present study is that, despite having found differences between age and other identities in the initial multi-group SEM, we collapsed across all three identities to investigate the effect of stigmatized group status. This was done because separating groups by both focal identity and stigmatized status would lead to very small samples in individual groups, which would in turn lead to low power to detect effects and unstable estimates. Future work should investigate further with designs meant to account for this.

General Discussion

Across two studies, participants who believed a given identity was more concealable (versus less) had more positive experiences in intergroup environments. They reported less intergroup anxiety, greater willingness to initiate intergroup contact, and having higher quantity and quality of cross-group friendships. These findings generalized across identities including sexual orientation, religion, political ideology, and employment. However, they did not extend to age in all cases and more work is needed to understand why. These findings support the view that feeling an identity is chronically on-display can be a threatening experience in challenging intergroup contexts. In contrast, feeling that one has the ability to conceal the identity may attenuate that threat.

Interactions between members of different groups can be anxiety-inducing. Fear of being judged in intergroup contexts on the basis of an unshared identity has long been theorized to be a cause of intergroup anxiety (Stephan & Stephan, 1985). The present results support this account by finding that when someone believes an identity they hold is unperceived—or unperceivable—by others, they experience less anxiety in intergroup contexts.

The present research also documents positive relationships between subjective identity concealability and intergroup contact. People who believe an identity they hold is concealable are more prone to initiating intergroup contact and have higher-quantity and higher-quality cross-group friendships. An important insight is that concealability beliefs are associated with more numerous cross-group friendships *without* a trade-off with quality; participants high on subjective identity concealability reported *greater* quality of their cross-group friendships. This is consistent with the view that believing an identity to be concealable is associated with greater facility navigating otherwise-challenging intergroup environments. However, an important

question for future research is whether concealability beliefs are associated with other relational trade-offs. Felt quality on the part of the relationship partner, for example, may be undermined if concealability beliefs lead to actual concealment behavior and the relationship partner feels that their friend is withholding.

A unique contribution of the present work is the inclusion of participants from non-stigmatized groups. One practical benefit of this approach is that it allowed us to perform exploratory analyses examining whether the relationships between subjective identity concealability and intergroup outcomes were stronger for members of stigmatized groups. Here, we found inconsistent evidence. The effect of subjective identity concealability on quality and quantity of cross-group friendships was significantly stronger for stigmatized groups than non-stigmatized groups. However, the effect of subjective identity concealability on the two other contact outcomes (intergroup anxiety and initiation of intergroup contact) were not significantly stronger for stigmatized groups than non-stigmatized groups. Why significant moderation was found for the quality and quantity of cross-group friends path, specifically, is an important question for future research.

As concealable identities have historically been considered in the context of stigmatized identities, an important question is what concealability means for non-stigmatized identities. As we have previously argued, anxiety in intergroup contexts are not the exclusive domain of stigmatized-group members. Rather, anyone may experience such anxieties. Therefore, to the extent that a person feels anxious in an intergroup context, a belief that they are in control of that identity's disclosure may attenuate that anxiety regardless of whether or not they are part of a stigmatized group. It is likely that these concerns are heightened among members of stigmatized groups, as they stand to lose more should their stigmatized identity be discovered, but that in no way implies that members of non-stigmatized groups are immune to concerns of identity-based judgment or that beliefs about concealability would be irrelevant to them.

Future work must test causal relationships. The correlational methods employed in the present paper provide indirect support for a causal relationship but cannot provide direct evidence for it. This is an inferential limitation of our design that must be addressed in future work. Two potential directions for this work are to manipulate beliefs directly (i.e., attempt to change participants' beliefs about how concealable their identities are) or to manipulate the

concealment affordances provided by the environment (i.e., to place participants in environments that may influence how easy or difficult they believe concealment to be in that moment).

Even if our theoretical model is supported through causal inference, an important consideration is that, by investigating people's lay beliefs about the concealability of their own identities, we have identified an imperfect solution. When an identity is perceivable, people sometimes experience threat and anxiety in intergroup contexts. We suggest that concealability beliefs may attenuate this relationship, rendering environments more "identity-safe" for people who may otherwise fear judgement in intergroup contexts. However, the well-known negative consequences of concealment behavior documented in other parts of the literature, such as increased feelings of inauthenticity and reduced belonging, psychological wellbeing, and physical health, along with the previously-documented positive relationship between concealability beliefs and concealment behavior, rule it out as an all-purpose antidote to the threats inherent to intergroup interactions (Beals, Peplau, & Gable, 2009; Cole, Kemeny, Taylor, & Visscher, 1996; Cole, Kemeny, Taylor, Visscher, & Fahey, 1996; Crabtree & Pillow, 2020; Le Forestier et al., in prep.; Newheiser & Barreto, 2014; Quinn et al., 2017; Riggle, Rostosky, Black, & Rosenkrantz, 2017; Weisz, Quinn, & Williams, 2016).

Why then, do we observe positive correlates of subjective identity concealability even in the presence of other well-documented harms from a conceptually-related construct: concealment behavior? These two sets of findings are not in conflict with each other. Subjective identity concealability and concealment behavior are only moderately correlated, suggesting that they are discrete constructs that may therefore be expected to have different outcomes (Le Forestier et al., in prep.). An insight from this work is therefore that distinct constructs related to concealment can have strikingly different outcomes. This insight is consistent with recent work that suggests that even different forms of concealment behavior can have different outcomes, specifically that active concealment, rather than other, less engaged forms of concealment, accounts for its negative outcomes (Quinn et al., 2017). Because simply holding a belief about concealment does not require active engagement in concealment, the divergent outcomes of concealment behavior and subjective identity concealability are perhaps unsurprising.

An important caveat to the positive associations of subjective identity concealment documented in the present work is that the extent of the benefit of engaging in intergroup contact in the context of concealability beliefs remains unclear. Much of the interest in intergroup

contact stems from its ability to reduce intergroup prejudice (i.e., the contact hypothesis; Allport, 1954; Pettigrew, 1998; Pettigrew & Tropp, 2006). Although this effect has been documented in less visible intergroup domains such as sexual orientation (MacInnis, Page-Gould, & Hodson, 2017; Pettigrew & Tropp, 2006; Smith, Axelton, & Saucier, 2009), whether these effects still persist when an individual conceals their identity or believes their identity is concealable is not yet known.

These results provide valuable insights into a novel form of coping with the anxiety-inducing experience of feeling as though an identity may be judged negatively by others: believing in the ability to conceal that identity. While there are known to be psychological costs to concealing a stigmatized identity, the findings reported here shed a more positive and thus nuanced light on concealable identities. Concealability affords a person control over their social world that is not possible for less concealable identities. As a result, people who believe they can conceal their identities can move with more confidence through a diverse social world.

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Tables

Table 1
Demographic Details for Study 1

		Study 1
N		1012
Age		
	Mean (years)	32.93
	SD (years)	14.96
	No response (n)	6
Sex		
	Female	68.18%
	Male	31.52%
	Other	0.10%
	No response (n)	2
Gender Minority		
	Yes	1.49%
	No	97.52%
	Unsure	0.99%
	No answer (n)	2
Sexual Orientation		
	Asexual	0.30%
	Bisexual/Pansexual	11.13%
	Gay or Lesbian (homosexual)	5.47%
	Queer	1.09%
	Straight (heterosexual)	81.51%
	Other/None of these	0.50%
	No response (n)	6
Ethnic Origin		
	Aboriginal	0.20%
	African	6.36%
	Caribbean	1.59%
	East/Southeast Asian	5.46%
	European	64.75%
	Latin/Central/South American	8.74%
	Middle Eastern	1.09%
	Pacific Islander	0.50%
	South Asian	2.38%
	Other	8.94%

	No response (n)	5
Biraciality		
	Yes	10.33%
	No	89.67%
	No response (n)	5
Religion		
	Atheist	0.10%
	Buddhist	1.53%
	Christian (Catholic or Orthodox)	21.12%
	Christian (Protestant or other)	33.16%
	Hindu	0.61%
	Jewish	2.35%
	Muslim	1.02%
	Other/None of these	5.82%
	None	34.29%
	No response (n)	32
Rurality (-3-Very rural to 3-Very urban)		
	Mean	1.16
	SD	1.7
	No response (n)	5

Table 2

Within-Groups Descriptive Statistics for Study 1 Key Variables

	<i>n</i>	Identity				
		Age	Job	Political Ideology	Religion	Sexual Orientation
Subjective Identity	<i>M</i>	1.97	2.36	2.42	2.72	2.58
Concealability	<i>SD</i>	.95	.97	.76	.76	.95
	α	.90	.90	.86	.85	.92
	95% CI	[.88, .92]	[.87, .93]	[.84, .88]	[.81, .88]	[.89, .94]
Intergroup	<i>M</i>	1.40	1.20	1.53	1.05	1.27

Anxiety	<i>SD</i>	.65	.63	.71	.61	.67
	α	.84	.82	.86	.81	.85
	95% CI	[.80, .87]	[.76, .87]	[.84, .88]	[.78, .85]	[.81, .89]

Note. Means, standard deviations, and Cronbach's alpha were calculated using the Psych package in R (R Core Team, 2018; Revelle, 2018). Confidence intervals for Cronbach's alpha are studentized.

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Table 3

Demographic Details for Study 2

	Study 2	
N	592	
Age		
Mean (years)	42.19	
SD (years)	17.00	
No response (n)	4	
Age Group		
Teenager	2.87%	
Young adult	33.45%	
Middle-aged Adult	42.23%	
Older adult	21.28%	
None of these	0.17%	
No response (n)	0	
Sex		
Female	66.22%	
Male	33.45%	
Other	0.34%	
No response (n)	0	
Sexual Orientation		
Asexual	1.18%	
Bisexual/Pansexual	7.09%	
Demisexual	0.34%	
Gay or Lesbian (homosexual)	3.21%	
Straight (heterosexual)	86.66%	
Other/None of these	1.52%	
No response (n)	0	
Ethnic Origin		
Aboriginal	0.17%	
African	5.07%	
Caribbean	2.20%	
East/Southeast Asian	4.05%	
European	59.97%	
Latin/Central/South American	2.87%	
Middle Eastern	0.84%	
Pacific Islander	0.00%	
South Asian	2.87%	
Other	11.82%	
Multi-ethnic	10.14%	
No response (n)	0	

Religion

Agnostic	14.36%
Atheist	14.86%
Buddhist	3.04%
Christian (Catholic or Orthodox)	16.39%
Christian (Protestant or other)	21.45%
Hindu	1.35%
Jewish	3.72%
Muslim	2.36%
Taoist	0.34%
Other/None of these	22.13
No response (n)	0

Table 4

Within-Groups Descriptive Statistics for Study 2 Key Variables

	<i>n</i>	Identity			Stigmatized Status	
		Age	Religion	Sexual Orientation	Stigmatized	Non-Stigmatized
Subjective Identity	<i>M</i>	1.62	2.58	1.57	2.02	1.73
Concealability	<i>SD</i>	0.86	0.85	0.95	1.00	0.96
	α	.88	.86	.86	.90	.88
	95% CI	[.86, .90]	[.83, .90]	[.83, .89]	[.88, .92]	[.86, .90]
Intergroup Anxiety	<i>M</i>	0.94	0.72	0.72	0.91	0.74
	<i>SD</i>	0.55	0.56	0.50	0.55	0.53
	α	.84	.82	.82	.82	.84
	95% CI	[.81, .87]	[.78, .86]	[.78, .86]	[.79, .85]	[.81, .86]
Initiation of Intergroup Contact	<i>M</i>	1.32	1.79	1.44	1.47	1.50
	<i>SD</i>	0.92	1.01	1.05	0.99	1.02
	α	.71	.74	.77	.74	.75

	95% CI	[.66, .77]	[.68, .80]	[.72, .82]	[.69, .78]	[.71, .79]
Quantity & Quality of Cross-Group Friendship	<i>M</i>	8.55	14.88	5.72	13.28	6.20
	<i>SD</i>	8.56	10.89	8.68	10.42	8.29

Note. Means, standard deviations, and Cronbach's alpha were calculated using the Psych package in R (R Core Team, 2018; Revelle, 2018) Confidence intervals for Cronbach's alpha are studentized.

Table 5

Within-Groups Paths from Multi-Groups SEM

Path Label	Description	Age			Religion			Sexual Orientation		
		β	z	p	β	z	p	β	z	p
a	SIC→IA	-.14	-2.20	< .05	-.20	-2.55	< .05	.06	.80	= .42
b	IA→IIC	-.54	-9.96	< .001	-.45	-6.50	< .001	-.47	-7.63	< .001
c' (direct)	SIC + IA→IIC	.02	.32	= .75	.18	2.57	= .01	.25	4.07	< .001
Indirect effect	a * b	.08	2.15	< .05	.09	2.37	< .05	-.03	-.80	= .43
c1 (total effect)	Direct effect + Indirect effect	.09	1.45	= .15	.27	3.49	< .001	.22	3.19	= .001
c2	SIC→QQ	.13	2.03	< .05	.24	3.08	< .01	.58	9.85	< .001

Note. All betas standardized.

Abbreviations denote the following: SIC: Subjective Identity Concealability; IA: Intergroup Anxiety; IIC: Initiation of Intergroup Contact; QQ: Quantity and Quality of cross-group friendships.

Table 6

Within-Groups Paths from Stigma Multi-Groups SEM

Path Label	Description	Stigmatized			Non-Stigmatized			Moderation		
		β	z	p	β	z	p	β	z	p
a	SIC→IA	-.23	-3.82	< .001	-.07	-1.30	= .19	-.16	-1.96	= .05
b	IA→IIC	-.44	-8.32	< .001	-.51	-11.01	< .001	.06	1.45	= .15
c' (direct)	SIC + IA→IIC	.19	3.54	< .001	.18	3.88	< .001	.01	-.04	= .97
Indirect effect	a * b	.10	3.47	< .01	.04	1.29	= .20	.07	1.50	= .14
c1 (total effect)	Direct effect + Indirect effect	.29	4.97	< .001	.22	4.01	< .001	.08	.73	= .47
c2	SIC→QQ	.47	8.60	< .001	.31	5.89	< .001	.16	3.05	< .01

Note. All betas standardized.

Abbreviations denote the following: SIC: Subjective Identity Concealability; IA: Intergroup Anxiety; IIC: Initiation of Intergroup Contact; QQ: Quantity and Quality of cross-group friendships.

Figure Captions

Figure 1. *Bootstrapped Effect Size Estimates for Subjective Identity Concealability and Intergroup Anxiety*

Figure 2. *Structural Mediation Model*

Figure 3. *Reduced Structural Mediation Model*

Appendices

Appendix 1

Initiation of Intergroup Contact

Please read each of the following statements and indicate the degree to which you agree or disagree with them.

1. I am comfortable starting conversations with people who are not [identity].
2. I like meeting new people who are not [identity].
3. I prefer to make friends with [identities/identity people] than with people who are not [identity]. (reverse coded)
4. If I needed to ask someone for help, I would be more likely to ask a [identity/identity person] than someone else. (reverse coded)
5. I would be comfortable moving into a neighborhood where most people are not [identity].
6. I try to avoid people who are not [identity]. (reverse coded)
7. At work, I would happily work on a team where I was the only [identity] person.

-3	-2	-1	0	1	2	3
Strongly disagree	Moderately disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Moderately agree	Strongly agree

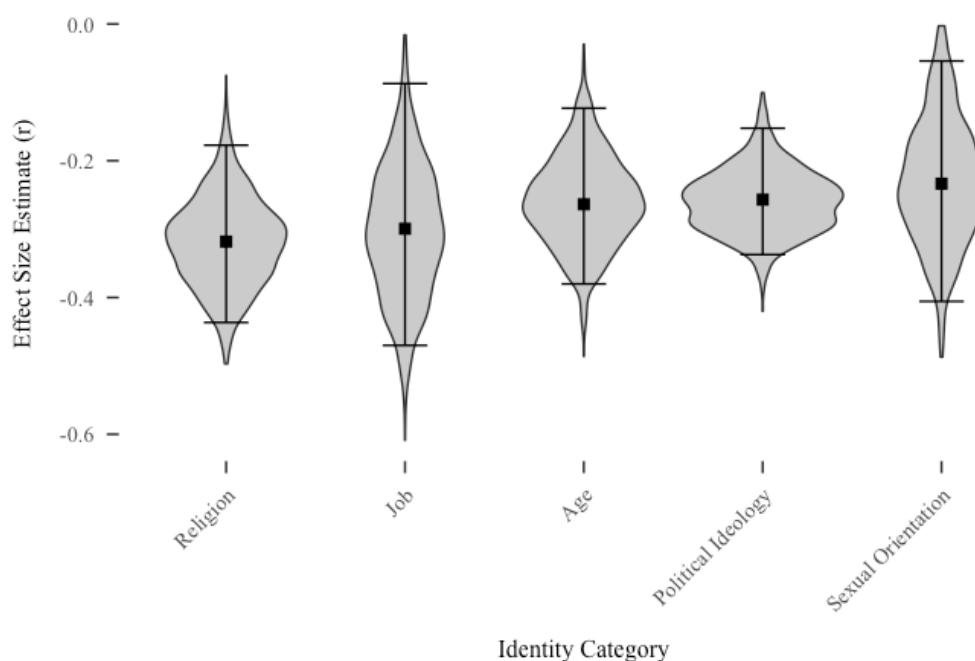
¹ Our anticipated effect sizes were $r = .20$ for the relationship between subjective identity concealability and intergroup anxiety based on effects observed in Study 5 of Le Forestier et al., (in prep), $r = -.29$ for the relationships between intergroup anxiety and both initiation of intergroup contact and quantity and quality of intergroup contact based on effects observed in Stephan and Stephan (1985), and, $r = .10$ for the relationships between subjective identity concealability and intergroup contact outcomes as that was the smallest effect size of interest for both of these combinations. Based on Study 3 of Le Forestier et al. (in prep)'s observed standard deviations, standard deviations for the subjective identity concealability and intergroup anxiety were set as .89 and .69, respectively. The standard deviation for both features of intergroup contact were left at the default (1.00) as we did not have specific anticipated standard deviations for these.

² Although these data were drawn from an international sample, over 95% of participants were from a majority-Christian country according to data from the CIA World Factbook ("The World Factbook," 2020), a fact that lends

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support to the assertion that Christians constitute a “non-stigmatized” group in our sample. For a full list of participants’ countries and their religious composition, see the online supplement.

Figure 1

Bootstrapped Effect Size Estimates for Subjective Identity Concealability and Intergroup Anxiety

Note. Squares and error bars represent mean effect size estimates and bootstrapped 95% confidence intervals.

Figure 2

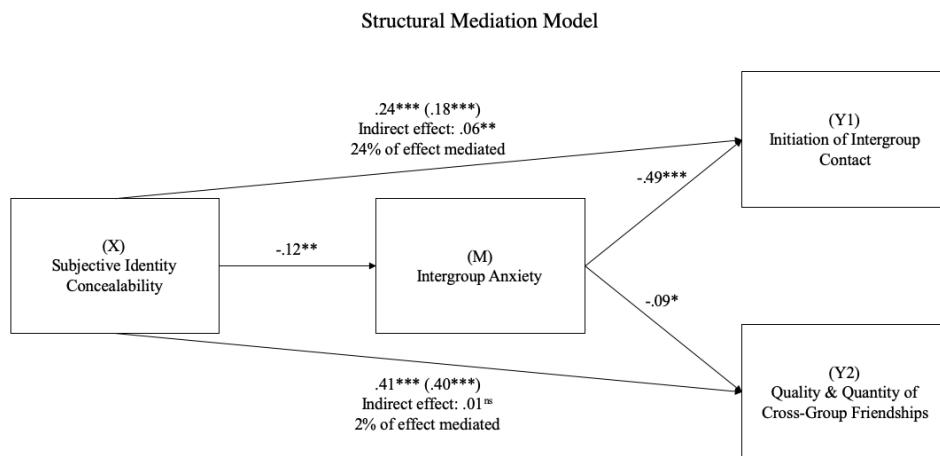
Structural Mediation Model

Figure 3

Reduced Structural Mediation Model