

# Social-Environmental Constraints on the Development of a Concealable Stigmatized Identity Predict Psychological Distress

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## Abstract

People who are stigmatized along concealable features (e.g., individuals reporting adverse childhood experiences) often experience challenges to the self-concept, which can promote psychological distress. Developing a stigmatized identity might counter these effects, but the internality of concealable features can forestall this process: individuals may look to similarly-stigmatized others, but if these group members remain concealed (i.e., are not “out”), they are less identifiable as guides for development. In two studies ( $N_{\text{total}} = 845$ ), less outness among similarly-stigmatized others in the social environment predicted increased distress—but only for individuals reporting low progress in processes of positive meaning-making (Studies 1 and 2) and exploration (Study 2). The interaction held when controlling for stigmatizing views endorsed by non-stigmatized counterparts (Study 2). Findings highlight similarly-stigmatized others as important constituents of the social environment: low group visibility and accessibility may uniquely contribute to distress for individuals at early phases of developing a positive and clear stigmatized identity.

## Keywords

psychological distress, concealable stigmatized identities, identity development, groups

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Stigma describes the social phenomenon whereby human features are made socially-salient, and some variation in those features is labeled, essentialized, and tagged with negative stereotypes (Link & Phelan, 2001). Stigma plays out in everyday interactions, implicating perceivers and targets (Jones et al., 1984). Perceivers ordinarily are primed to engage in the categorization and stereotyping of people along socially-salient features (Bargh et al., 2012), but the course of these perceiver processes often depends on the *concealability* of those features. External features like skin tone and facial definition (Sen & Wasow, 2016) often automatically trigger the categorization and stereotyping of many stigmatized targets (Fiske & Neuberg, 1990), but the *internality* of concealable features like sexual attraction, mood and thought, physiological function, or past experiences (Quinn & Chaudoir, 2009) typically forestalls these processes for many stigmatized individuals. That is, whereas targets like Black Americans are “discredited” at the onset of new interactions, targets stigmatized along concealable features, such as people with mental or chronic physical illness, sexual minorities, or people reporting adverse childhood experiences, are considered “discreditable” (Goffman, 1963).

This target-perceiver dynamic would appear to confer significant social advantages for the individual stigmatized along concealable features. While the mechanics of concealability are complex (Le Forestier et al., 2023), the non-externality of features often means that people are concealed, by default, in new relationships. Barring gossip or “general knowledge” (Pachankis, Mahon, et al., 2020), many people must disclose their negatively-labeled features for others to know about them. Consequently, people typically can choose to whom they will disclose and thus define their own level of “outness” (e.g., Mohr & Fassinger, 2000). Beyond mere concealability, here we consider *less* outness as a form of concealment existing on the concealment continuum between passive concealability and active concealment (Pachankis, Mahon, et al., 2020). Less outness might indicate that individuals are exercising self-determination in a stigmatizing

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world: to whom has the stigmatized individual not disclosed their labeled features?

It would stand to reason that less outness might benefit psychological well-being, especially if perceivers in the social environment hold particularly stigmatizing views (Pachankis & Bränström, 2018). Yet, research has not uniformly borne out this prediction. Not only do people stigmatized along concealable features report significant *psychological distress* (Quinn et al., 2014), frequently experiencing non-specific symptoms of depression and anxiety (Mirowsky & Ross, 1989), but research on the relationship between outness and distress is remarkably mixed. Less outness can be related to less distress (e.g., Riggle et al., 2017), but frequently less outness predicts greater distress (e.g., Quinn et al., 2014). Other research finds no association (e.g., Lewis et al., 2014). An inconsistent relationship often is indicative of moderating factors, and both individual-level (Legate et al., 2012) and social-contextual (Quinn, 2018) moderators may be involved to shape the positive, negative, or null associations between outness and distress. A parallel possibility, however, is that outness can operate at multiple levels to impact an individual's distress.

### The Target as Perceiver

High distress and its complex relationship with outness might be partially clarified by broadening our conception of the social environment: *who* does not know about the stigmatized individual's labeled features? Most research examining social influences on the stigmatized individual has considered the impact of non-stigmatized counterparts. These perceivers, whether stigmatizing or supportive, are a critical portion of the social environment (Hatzenbuehler, 2016). Also existing alongside non-stigmatized counterparts, however, are *similarly-stigmatized others* (Cortopassi et al., 2024). While being less out may primarily allow the stigmatized individual to evade categorization and stereotyping by non-stigmatized counterparts in the social environment, it may have the collateral consequence of keeping individuals stigmatized along concealable features from recognizing one another.

This possibility suggests an underexplored source of social influence for the stigmatized individual—the group—and leads to a critical shift in perspective: the stigmatized target can also be the perceiver. Ostensibly, outness is an individual quality with personal consequences for a stigmatized target, but its impact may be social (Pasek et al., 2017), manifesting at the interpersonal or intra-group levels to impact the individual. As perceivers of similarly-stigmatized others, stigmatized targets' ability to recognize and interact with one another may be undermined by less outness at the group level. Consequently, whether through diminished contact, observation, or some other thwarted mechanism (e.g., Pachankis & Jackson, 2023; Suppes et al., 2021), less collective outness among similarly-stigmatized

others in the social environment may make it more difficult for many individuals to negotiate a stigmatized identity.

### Stigmatized Identity Development

A stigmatized *identity* denotes the meaning that the stigmatized individual constructs around their labeled and essentialized features (Quinn & Chadoir, 2009). Identity is a core determinant of psychological distress for individuals stigmatized along concealable features (Quinn et al., 2014). One reason for high distress may relate to challenges that less group outness poses to identity development—changes in meaning over time that promote an identity's integration into the broader self-schema. Prior research has shown that the cohesive incorporation of stigmatized racial-ethnic identity is important for psychological well-being (e.g., Rivas-Drake et al., 2014). And while identity development ultimately is an *intra-individual* process, group members often play a facilitating role (Umaña-Taylor et al., 2014). Prominent developmental models for stigmatized racial identity, for instance, posit that turning to similarly-stigmatized others is an early stage of identity development (e.g., Cross & Vandiver, 2001).

Many individuals stigmatized along concealable features similarly could benefit from the guidance of similarly-stigmatized others, especially if they have made less progress in identity development on their own. As individuals navigate the social environment, group members are likely present, but if they are concealed (i.e., are not out), they may be unidentifiable and inaccessible as facilitators of identity development. Everyday non-disclosure may keep many individuals from recognizing and interacting with group members. Without the group, the individual has one fewer resource to negotiate the identity's integration in the self-schema. And given their appearance in early stages of developmental models (e.g., Cross & Vandiver, 2001), the low visibility and accessibility of group members in the social environment may be particularly impactful at early phases of concealable identity development.

### Key Developmental Processes

Stigmatized identities manifest alongside the many other identities that comprise the self (e.g., Stryker, 1989). Each identity is its own set of meanings, and taken together, these identity contents comprise properties of the global self-concept (e.g., Swann & Bosson, 2010). Social psychological theory posits that the maintenance of a coherent and consistent self-concept is a fundamental drive (e.g., Lecky, 1945), and with its negative valence and unfamiliarity, a stigmatized identity disrupts the well-regarded and well-known disposition that typically characterizes the self-concept (e.g., Campbell, 1990) and promotes psychological well-being (e.g., Campbell et al., 2003; Taylor & Brown, 1988). To maintain self-consistency and associated psychological

well-being, people likely are driven to feel good about, and to understand, their labeled features (Park, 2010)—move toward a positive and clear identity. In turning to group members, people with concealable stigmatized identities likely look for guidance in two intra-individual processes that can promote an identity's coherent integration in the self-concept: positive meaning-making and exploration. If these developmental tasks are frustrated, it likely promotes psychological distress.

### Positive Meaning-Making

With its negative valence, a stigmatized identity challenges the coherence of a positive self-schema. Although this may be the case for any stigmatized identity, identity accommodation may be particularly challenging for various concealable identities. Even though many of these identities are constructed around arbitrary features that are tagged with negative social significance, they often are appraised as negative by those who experience them—independent of stigma. Sexual assault, childhood abuse, and mental and chronic illness can be significant sources of stress (e.g., Park, 2010). Even if they were not stigmatized, many of these identities likely would carry negative connotation for people who hold them. Thus, *two layers* of negative meaning often must be navigated in the development of a concealable stigmatized identity. To accommodate its integration, people may aim to reappraise the multi-layered negativity that can imbue their identities.

Many people with concealable stigmatized identities convert negativity by deriving positive meaning from their features. For instance, people with chronic illness sometimes find a keener sense of humor from their experiences (e.g., Pakenham, 2007), and this psychological growth can be facilitated by group members. Through peer support groups, people with mental illness report increased hope, positive outlooks, and greater meaning in life (Smit et al., 2023); and through group activism efforts, many sexual assault survivors realize new meaning and purpose (Strauss Swanson & Szymanski, 2020). Psychological well-being likely depends on sufficient progress in cultivating positive meaning from a concealable stigmatized identity. If fewer opportunities for positive meaning-making are available, such as through diminished visibility and accessibility of group members in the social environment, it is likely to promote psychological distress—particularly for those who have made fewer prior gains in positive meaning-making.

### Exploration

A concealable stigmatized identity also can obfuscate an otherwise clear global self-image. Not only is a novel identity unfamiliar to the self, but many concealable stigmatized identities, such as sexual assault, challenge people's worldviews, creating confusion about the self and one's

place in the world (Park, 2010). Engagement in identity exploration, however, can shift the meaning of identity to clarity (Umaña-Taylor et al., 2014). Exploration entails understanding identity: learning about it, identifying role models, and deep processing (Phinney, 1992). Conceptualized as identity work, exploration is typically measured by assessing engagement in identity-oriented action (e.g., Phinney & Ong, 2007; Umaña-Taylor et al., 2004). While most identity measures capture self-conception in the present tense, identity processes like exploration (and positive meaning-making) are captured in the present perfect tense (e.g., “*I have done things that will help me understand my identity better*”; Schwartz et al., 2009). The extent of endorsement captures current progress toward an identity-based goal initiated in the past, and this temporal specificity reflects developmental aspects of identity.

With concealable stigmatized identities, group members can foster substantial self-understanding. For example, addiction sponsors can coach individuals to develop personalized sobriety management strategies (Tonigan & Rice, 2010), and in peer support groups, people diagnosed with mental illness can learn about others' experiences (Smit et al., 2023). In these cases, group members can facilitate self-knowledge and self-insight; in other cases, group members are more directly involved in exploration. For example, intra-group relationships are critical contexts for sexual minorities to learn sexual and romantic sensibilities (Worthington et al., 2008). Whatever form it takes, the reduced ability to gain clarity likely impedes an identity's coherent integration in the self-schema. Thus, diminished visibility and access to nearby group members who could stimulate exploration likely contributes to psychological distress, particularly for those who have made less progress in the process.

### Current Research

In the current research, we examined less group outness in the social environment as a source of psychological distress for people with concealable stigmatized identities. Drawing from research and theorizing on the structure of the self-concept, racial-ethnic identity development, and stress and coping, we propose that group members can facilitate the coherent negotiation of a stigmatized identity into the self-schema, but because these features are concealable, group members in the social environment are less likely to identify and interact with one another. Thus, less outness among group members may render them less visible and inaccessible, constraining the development of a positive and clear identity and undermining psychological well-being. Two studies examined how less outness among group members in the social environment interacted with individual progress in positive meaning-making (Studies 1 and 2) and exploration (Study 2) to predict psychological distress.

## Study 1

The purpose of Study 1 was to examine how the development of a positive identity may be constrained by less group outness in the social environment and contribute to psychological distress. To capture group dynamics in a local context, we collected measures of outness, positive meaning-making, and psychological distress from undergraduate psychology students. Not only do these students inhabit the same physical environment, but because the undergraduate participant pool is comprised of a handful of course sections, these students plausibly know one another (but perhaps not each other's identities). Thus, even when participants are recruited as individuals, the group-level dynamics that emerge in college student datasets can meaningfully reflect broader dynamics of the social environment. Our analyses examined how less group-level outness and current progress in positive meaning-making interacted to predict individuals' psychological distress.

## Method

### Recruitment and Enrollment

Participants were recruited during the Fall 2022 semester at Rutgers University-New Brunswick, a large, public university in the northeastern United States. The University is located in a small college town (~55,000 residents), densely situated across several residential campuses, making it a suitable setting to examine dynamics of a relatively closed ecosystem. Participants provided informed consent to complete an online, anonymous screening checklist for concealable stigmatized identities (see Table 1). To conduct our multi-level modeling, we screened for 23 identity groups, aiming for 10 to 30 participants per identity group.<sup>1</sup> Participants were eligible to participate if they endorsed a targeted identity. If a participant endorsed a single targeted identity (36.2%), they answered questions on that identity. If a participant endorsed multiple identities ( $M = 2.8$ ,  $SD = 2.3$ ), they were assigned to answer questions for whichever endorsed identity ranked lowest in anticipated "population prevalence" in the participant pool. An alternative sampling approach is for individuals with multiple identities to answer questions about the identity that they deem most important (e.g., Quinn et al., 2014), as stigma variables predict psychological well-being most strongly for identities considered important (e.g., Rodriguez-Seljas et al., 2019). However, assignment ensured recruitment goals, and importance is a meaning. Selecting on individual importance might also select on developmental progress, and because our group-level estimates were to be derived from individuals in the dataset, it also would bias the group-level characteristics of the sample.<sup>2</sup> See the Supplemental Material for full recruitment details.

From the identity checklist, 645 individuals were preliminarily eligible for the main study and consented to participate. A total of 615 participants "confirmed" their identity, answering in the affirmative to a direct question about identity possession, with 584 unique participants completing the

study. From these participants, 27 were excluded for missing data. We excluded another 132 participants who did not pass three attention check questions and another 10 participants from four small groups ( $ns < 5$ ). Exclusions<sup>3</sup> left an analytic sample of 414 participants. Using the *simr* (Green & MacLeod, 2016) R package, simulations of our data structure and a small-to-medium effect size (10,000 simulations;  $\beta = 0.3$ ) showed 92.4% (95% CI [91.9, 92.9]) power to detect a cross-level association.

Participants reported varying degrees of familiarity and embeddedness in the University ecosystem. Most participants were in their first semester of study (71.0%), and most participants lived on-campus (66.2%).<sup>4</sup> Due to unforeseen limitation in access to prescreening data for the 2022-2023 academic year, we do not have other demographic information from participants. However, data from a separate study ( $N = 858$ ) conducted in Fall 2022 highlight the typical demographic composition of the departmental participant pool. In that study, racial-ethnic background included: Asian (33.7%), White (31.4%), Hispanic (12.5%), Multiracial (9.7%), Black (7.1%), Middle Eastern (4.1%), and another race (1.4%). Gender composition included: women (59.1%), men (38.6%), and non-binary people (2.0%). Average age was 18.7 ( $SD = 1.3$ ) years.

### Procedure

Eligible participants provided informed consent to complete an online, anonymous survey about their identity and well-being. Participants completed the following measures, and wherever "identity" or "identity group" was mentioned in a question stem, the participant's specific identity appeared. Participants were debriefed and provided mental health referrals after completing the 30-minute survey. The University's Institutional Review Board approved all study procedures. The two studies were not pre-registered. All materials, data, and analytic code are available at <https://osf.io/zke2t>.

### Measures

**Outness.** Participants completed a single-item general outness measure, modified from Martin and Dean (1990) and Quinn et al. (2014). On a 5-point unipolar scale, ranging from 1 (*people around me are almost never aware of it*) to 5 (*people around me are almost always aware of it*), participants indicated the frequency that others around them knew about their identity. The item referred specifically to people at the University.

**Positive Meaning-Making.** To measure progress in positive meaning-making, we adapted several items from the Stress-Related Growth Scale (Park et al., 1996). With the exception of the last item, statements were written in the present perfect tense (e.g., "I *have learned*") to capture current progress toward positive meanings derived as a result of processes initiated in the past (Park, 2010). This grammatical structure



**Table 1.** Sample Characteristics.

	Study 1 (N = 414)				Study 2 (N = 431)			
	Composition		Outness		Composition		Outness	
	n	(%)	M	(SD)	n	(%)	M	(SD)
Bisexual	37	8.9	2.3	1.3	24	5.6	2.5	1.2
Anxiety Disorder	34	8.2	1.8	0.8	18	4.2	1.6	0.7
Attention-Deficit/Hyperactivity Disorder	29	7.0	2.5	0.9	24	5.6	2.4	1.4
Poverty	28	6.8	1.8	0.8	23	5.3	1.4	0.7
Clinical Depression	28	6.8	1.4	0.6	17	3.9	1.8	1.1
Childhood Emotional Abuse	27	6.5	1.7	0.8	24	5.6	1.3	0.6
Atheist	25	6.0	2.2	1.0	24	5.6	1.6	0.9
Academic Probation	24	5.8	1.8	0.8	24	5.6	1.4	0.7
Marijuana Dependence	23	5.6	2.6	1.0	12	2.8	2.9	1.2
Dating/Acquaintance Rape	21	5.1	1.5	0.8	20	4.6	1.4	0.8
Jewish	21	5.1	3.6	1.0	18	4.2	3.1	1.3
Self-Harm	21	5.1	1.4	0.8	24	5.6	1.3	0.6
Childhood Physical Abuse	17	4.1	1.4	0.6	20	4.6	1.5	0.6
Obsessive-Compulsive Disorder	17	4.1	1.6	0.7	18	4.2	1.7	0.9
Childhood Sexual Abuse	17	4.1	1.2	0.4	15	3.5	1.3	0.5
Asexual	15	3.6	1.5	0.5	12	2.8	2.0	0.9
Anorexia Nervosa	16	3.9	1.6	0.6	-	-	-	-
Pornography Addiction	7	1.7	1.1	0.4	16	3.7	1.1	0.3
Post-Traumatic/Stress Disorder	7	1.7	1.4	1.1	10	2.3	1.3	0.7
Nicotine Addiction	-	-	-	-	22	5.1	3.6	0.8
Asthma	-	-	-	-	22	5.1	1.5	0.7
Gay or Lesbian	-	-	-	-	18	4.2	3.3	1.1
Non-Binary	-	-	-	-	13	3.0	2.3	1.0
Learning Disability	-	-	-	-	13	3.0	1.6	0.8

mirrors the measurement of other identity processes (Schwartz et al., 2009). On 7-point scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), participants indicated their extent of agreement with six items: “I have grown as a person due to {identity},” “Because of {identity}, I have learned to look at things in a more positive way,” “Because of {identity}, I have learned that I have something of value to teach others about life,” “Because of {identity}, I have learned to find more meaning in life,” “Because of {identity}, I have realized I have a lot to offer other people,” and “I believe that, because of {identity}, I have many strengths.” Exploratory factor analysis with varimax rotation revealed a single factor ( $\alpha = .87$ ).

**Psychological Distress.** As in previous research (Quinn et al., 2014), we operationalized psychological distress with symptoms of depression and anxiety using the Center for Epidemiological Studies-Depression (CES-D; Radloff, 1977) and Spielberger Trait Anxiety Inventory (STAI; Spielberger et al., 1983) scales. For the CES-D, participants indicated the frequency of various symptoms in the past two weeks on a scale from 0 (*rarely or none of the time*) to 3 (*most or all of the time*). For the STAI, participants indicated how often they generally experienced symptoms on a scale from 1

(*almost never*) to 4 (*almost always*). Because CES-D ( $\alpha = .92$ ) and STAI ( $\alpha = .93$ ) scores were highly associated ( $\beta = .84, p < .001$ ), we took the sum of standardized values for a psychological distress composite ( $\alpha = .96$ ).

**Additional Variables.** We included several exploratory variables, including identity centrality (i.e., identity importance; see the Supplemental Material).

## Analyses

Analyses were conducted in a few steps.<sup>5</sup> We first obtained descriptive statistics for our key variables and bivariate associations between variable pairs. Then, we examined the proposed interaction. In our analyses, we computed the average outness score for each identity group in the sample. Then, we assigned this group-level outness value to each participant in its corresponding group, which provided an estimate for the level of group visibility and accessibility in the University social environment. We also group-mean-centered outness by subtracting the group average from each participant’s level of outness. Because this value defines the individual’s outness relative to their group, it both controls for individual-level outness and accounts for the specific identity

**Table 2.** Bivariate Associations (Study 1).

	1	2	3	M (SD)
1. Group Outness	-			1.9 (0.6)
2. Positive Meaning-Making	.11	-		4.7 (1.3)
3. Psychological Distress	-.26***	-.12*	-	0.7 (24.3)

Note. \*\*\* $p < .001$ ; \* $p < .05$ .

concealed. Furthermore, regression models that include both partitioned variables (i.e., group-level and group-mean-centered outness) can permit locating where outness exerts influence on the individual (Enders & Tofighi, 2007).

We examined the interaction of outness (Level 2) and positive meaning-making (Level 1) on psychological distress (Level 1). Group-mean-centered outness was included as a covariate.<sup>6</sup> All regression analyses were conducted with linear mixed models in R, using the *lme4* (Bates, Mächler, et al., 2015) and *lmerTest* (Kuznetsova et al., 2017) packages. The identity group was specified as a random intercept, and we included a random slope for positive meaning-making, but the model did not converge. Because non-converging models are likely inaccurate, the recommended approach to non-convergence is backward removal of terms (first intercept-slope correlation, then random slope, and finally random intercept) to reach the maximally-convergent model (Bates, Kliegl, et al., 2015). In this case, the model converged after removing both the correlation and slope, and we retained the intercept-only model. To probe a significant interaction, we examined the influence of group-level outness on distress at 1 standard deviation above and below the mean (i.e., low and high progress in positive meaning-making) and tested the significance of simple slopes at these values. Tests of simple slopes were conducted with the *emmeans* package (Lenth, 2024). Finally, using the *MuMIn* package (Bartón, 2024), we obtained the proportion of variance in distress explained by the fixed effects ( $R^2_M$ ) in the model.

## Results

### Sample Characteristics

Bivariate associations and descriptive information are provided in Table 2. Based on thresholds defined in the clinical literature for the identification of mild-to-moderate depression and anxiety (scores  $\geq 16$  on the CES-D and  $\geq 40$  on the STAI), 83.3% of participants were above the cut-off for anxiety symptoms ( $M = 51.3$ ,  $SD = 11.3$ ), and 68.4% above that for symptoms of depression ( $M = 23.5$ ,  $SD = 12.0$ ). Scores on our distress composite ranged from  $-60.0$  to  $71.3$ . Across identity groups, current progress in positive meaning-making averaged above the scale midpoint. Table 1 shows a wide range in outness among groups. People reporting pornography addiction ( $M = 1.1$ ,  $SD = 0.4$ )

**Table 3.** Results from Mixed Model Testing Interaction of Group Outness and Positive Meaning-Making.

	Psychological Distress			
	B	SE	t	p
Group Outness	-34.77	8.94	-3.89	<.001***
Outness (GMC)	0.29	1.37	0.21	.831
Positive Meaning-Making	-11.16	3.37	-3.31	.001**
Group Outness x Meaning-Making	4.90	1.73	2.83	.005**
	$\sigma^2$			
Group Intercept	21.83			

Note. GMC = Group-Mean-Centered; \*\*\* $p < .001$ ; \*\* $p < .01$ ; B is unstandardized regression coefficient, and  $\sigma^2$  is variance.

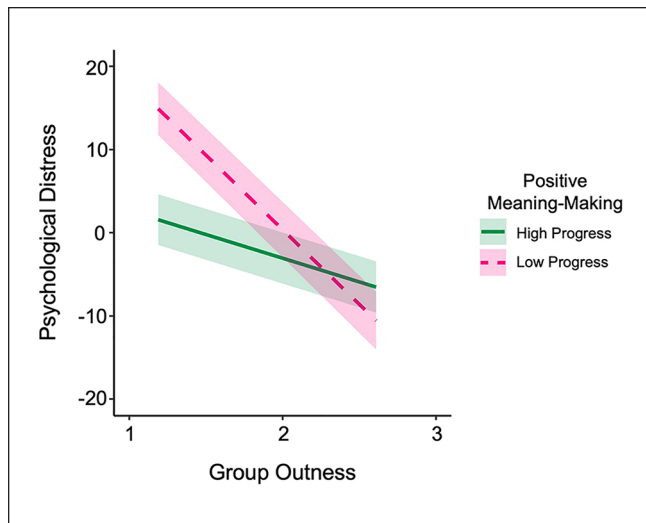
reported being least out at the University; Jewish participants ( $M = 3.6$ ,  $SD = 1.0$ ) most.

### Interaction of Group and Individual Processes

Table 3 shows that group-level outness and positive meaning-making interacted to predict psychological distress (also see Figure 1). Less group outness was associated with increased distress. Probing of the interaction showed that the negative association of group-level outness and distress was significant for participants reporting lower levels of progress in positive meaning-making ( $B = -17.9$ ,  $SE = 3.77$ ,  $t = -10.38$ ,  $p < .001$ ). The association was not significant at higher levels of progress ( $B = -5.7$ ,  $SE = 3.29$ ,  $t = -1.73$ ,  $p = .093$ ). At the individual level, group-mean-centered outness did not emerge as a significant predictor of distress. Altogether, the fixed effects accounted for 9.1% of the variance in distress.

## Discussion

Results highlight the role of the identity group in the lives of people with concealable stigmatized identities, suggesting its potential role in identity development and psychological well-being. In this sample, less outness among group members in the social environment interacted with current progress in positive meaning-making to predict psychological distress for individuals. Less group outness predicted increased distress only for participants reporting low current progress—not for those who had made significant strides in this process. Notably, less outness at the individual level did not predict distress. Altogether, findings suggest that group members in the social environment may be one facilitator for developing a positive identity, and if their visibility and accessibility are undermined through decreased outness, psychological well-being can be compromised.



**Figure 1.** Association of Group-Level Outness and Psychological Distress by Progress in Positive Meaning-Making.

Note. The y-axis shows the bounded range in estimated marginal means for distress. High and low levels are  $\pm 1$  SD around the mean. Ribbons extend  $\pm 1$  standard errors for association.

While these findings suggest that social-environmental constraints on identity development can undermine psychological well-being, this relationship may be confounded. Cultural stigma, the degree to which non-stigmatized others in the local context negatively-stereotype particular features, is not only the likely predominant motivation for individuals to be less out, but it is also a predictor of psychological distress (Quinn & Chaudoir, 2009). Thus, while findings from Study 1 highlight the role of the group, they do not disentangle the impact of the group from the impact of non-stigmatized counterparts. We address this issue in Study 2 and examine if less group outness is a unique contributor to distress—above and beyond the impact of cultural stigma.

## Study 2

Study 1 provided initial evidence that less group outness in the local context may constrain identity development and impact psychological well-being for people with concealable stigmatized identities. While Study 1 highlighted how these dynamics may impact positive meaning-making, the primary purpose of Study 2 was to reproduce the pattern of findings from Study 1 with a second identity process: exploration. While they are likely related, we theorize positive meaning-making and exploration as distinct processes that may shape different identity meanings or contents. Thus, a secondary purpose was to highlight the distinctiveness of the two processes. We again collected measures from psychology undergraduate students reporting a concealable stigmatized identity: outness, psychological distress, identity exploration, and positive meaning-making. Finally, to test for the unique contribution of group outness to distress, we collected a measure of cultural stigma in a separate sample of non-stigmatized participants. Analyses

examined (a) how group-level outness interacted with progress in exploration to predict distress and (b) how group-level outness interacted with progress in both exploration and positive meaning-making to predict distress.

## Method

### Recruitment and Enrollment

Participants were recruited from the participant pool in the Spring 2023 semester again at Rutgers-New Brunswick. Participants provided informed consent to complete an anonymous survey to determine eligibility for the main study. We used the same screening checklist from Study 1, aiming for 10 to 30 participants for 25 groups (see Table 1). As in Study 1, participants answered questions for their singular targeted identity (34.0%) or were assigned to answer questions about whichever of their multiple-endorsed identities ranked lowest in participant pool prevalence ( $M = 2.8$ ,  $SD = 2.2$ ). See ranked list in the Supplemental Material.<sup>7</sup> The major change to the Study 2 enrollment protocol was the role of ineligible participants. Here, as an extension of the screening process, participants reporting zero targeted identities (and only these participants;  $N = 354$ ) answered a set of separate questions about some of the various identities that they did not possess.

A total of 949 unique participants completed the identity checklist survey, with 566 individuals screening eligible and consenting to participate in the main survey. A total of 493 participants answered in the affirmative to a direct identity possession question and completed the study. We did not include 28 participants with missing data. We also excluded 30 participants who did not pass three attention check questions, and four participants from two small groups ( $ns < 5$ ). These exclusions<sup>8</sup> left an analytic sample of 431 participants, with no repeat participants from Study 1. Simulations of our data (10,000 simulations;  $\beta = 0.3$ ) with *simr* showed 99.7% (95% CI [99.6, 99.8]) power to detect a cross-level association. As before, we do not have demographic characteristics for participants (or non-stigmatized counterparts). Most participants were in their second semester of study (63.8%), and most participants lived on-campus (62.3%).<sup>9</sup>

### Procedure

Eligible participants provided informed consent to complete an online, anonymous survey about identity and well-being. The participant's specific identity appeared wherever a question stem referred to "identity" or "identity group." After the 15-minute survey, participants were debriefed and provided with mental health referrals.

### Measures

**Outness.** Participants completed the outness measure from Study 1.

**Identity Exploration.** To measure progress in exploration, we created an identity exploration scale with five items adapted from the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992), its revision (Phinney & Ong, 2007), and the Ethnic Identity Scale (Umaña-Taylor et al., 2004). These items captured how much participants had previously engaged in various actions intended to clarify an identity, written in the present perfect tense. On 5-point scales, ranging from 1 (*not at all true of me*) to 5 (*completely true of me*), participants indicated how much exploration sentiments described them. Items included: “I have often done things that will help me understand {identity} better,” “I have often talked to other people to learn more about {identity},” “I have thought a lot about how {identity} will affect my life,” “I have spent time trying to determine what {identity} means to me,” and “I have spent time trying to find out more about {identity}.” Exploratory factor analysis with varimax rotation revealed a single factor ( $\alpha = .81$ ).

**Positive Meaning-Making.** Participants completed the same six-item measure ( $\alpha = .92$ ) from Study 1.

**Psychological Distress.** As in Study 1, participants completed the CES-D ( $\alpha = .91$ ) and STAI ( $\alpha = .93$ ), which were highly associated ( $\beta = .80, p < .001$ ). We again summed standardized values for a psychological distress composite ( $\alpha = .96$ ).

**Cultural Stigma.** Ineligible participants were considered non-stigmatized counterparts in the social environment and were leveraged as our source of cultural stigma. In free-response format, participants provided four cultural stereotypes for each of four randomly-assigned identity groups sampled in the main study. For each response, participants were asked to provide one or two words for how society views each group. These spontaneous stereotypes were presented again, and participants were asked to indicate how much, in their personal view, each stereotype described the group. Stereotypes were presented together for each group, and endorsement was measured with extent scales ranging from 0 (*not at all*) to 4 (*extremely*).

The stereotypes ( $N = 5,591$  total) were submitted to text analysis using the *SADCATR* package (Nicolas et al., 2021). *SADCAT* allows for coding of general valence (among other dimensions), giving scores of -1 (positive), 0 (neutral), and 1 (negative) for each open-ended response. For each stereotype, we multiplied its valence by the participant’s endorsement (0-4). This step allowed us to place each stereotype on a bipolar, 9-point scale of endorsed sentiment. Values greater than 1 were indicative of negative stereotypes endorsed to some extent, and those less than 1 indicated endorsed positivity. Values of zero captured (a) neutral stereotypes or (b) positive and negative stereotypes that participants did not endorse. We aggregated and averaged all sentiment values. This group-level value represented our measure of cultural

stigma: the valenced sentiment endorsed by non-stigmatized counterparts in the social environment about a group.

**Additional Variables.** As in Study 1, we included several exploratory variables (e.g., identity centrality; see the Supplemental Material).

## Analyses

We again prepared a multi-level dataset to model the group-level outness dynamics among individuals with concealable stigmatized identities. For each identity group, we again computed the average outness score and assigned it to all individual participants in the group. As before, we group-mean-centered each individual’s outness score by subtracting the group value from it. To these data, we added the aggregated, group-level cultural stigma ratings derived from ineligible participants’ responses. Together, this merged dataset provided a fuller picture of the social environment: identity group outness dynamics alongside the negative sentiment endorsed by non-stigmatized counterparts.

We then obtained descriptive information and bivariate relationships among variable pairs and examined our proposed interactions. In the first part of our analyses, we examined the multi-level interaction of outness (Level 2) and identity exploration (Level 1) on psychological distress (Level 1). In the second part of analyses, we examined the distinctiveness of our two identity processes, which also permitted a replication of Study 1. To test for the unique impact of group inaccessibility on each process, we examined the three-way interaction of outness (Level 2), exploration (Level 1), and positive meaning-making (Level 1) on psychological distress (Level 1). Significant interactions were probed by examining tests of simple slopes at 1 standard deviation above and below the mean of the moderators (i.e., high and low progress in exploration and positive meaning-making).

We conducted each set of analyses twice: unadjusted and controlling for cultural stigma.<sup>10</sup> For brevity, we present only the adjusted models. Unadjusted models are presented in the Supplemental Material. All analyses were conducted with linear mixed regression models in R, using the *lmer* and *lme4* packages and specifying the identity group as a random intercept. We included a random slope for exploration in the interaction of group outness and exploration, and in testing the three-way interaction, we included random slopes for both exploration and positive meaning-making. The fully-specified models did not converge. For the two-way interaction, the model converged after removal of the slope-intercept correlation (i.e., retention of the random slope model); the model for three-way interaction reached convergence after removal of both correlations and random slopes (i.e., retention of the intercept-only model). For significant interactions, tests of simple slopes were conducted again with *emmeans*, and the two-way interaction was complemented



**Table 4.** Bivariate Associations (Study 2).

	1	2	3	4	5	M (SD)
1. Group Outness	-					1.9 (0.7)
2. Exploration	-.04	-				3.1 (1.0)
3. Positive Meaning-Making	-.14	.37***	-			4.4 (1.5)
4. Psychological Distress	-.12	-.10	-.22***	-		-1.5 (24.1)
5. Cultural Stigma	-.46*	.00	.14	.16	-	1.0 (0.5)

Note. \*\*\* $p < .001$ ; \* $p < .05$ .

with the Johnson-Neyman region of significance using the *interactions* package (Long, 2024), which indicated at what levels of exploration that group outness predicted distress. For each model, we again obtained  $R^2_M$  using the *MuMIn* package.

## Results

### Sample Characteristics

Bivariate associations between variables and descriptive information are provided in Table 4. In this sample, distress again was high. A 68.3% majority of participants were above the cut-off for depression symptoms ( $M = 22.1$ ,  $SD = 11.6$ ), and 83.2% above that for symptoms of anxiety ( $M = 50.4$ ,  $SD = 11.2$ ). Scores on our distress composite ranged from -57.4 to 65.1. Levels of both exploration and positive meaning-making averaged above the scale midpoint. As can be seen in Table 1, group outness ranged considerably: participants reporting nicotine addiction were most out ( $M = 3.6$ ,  $SD = 0.8$ ), with people reporting pornography addiction least ( $M = 1.1$ ,  $SD = 0.3$ ). Finally, cultural stigma similarly ranged across groups, but the average endorsed sentiment skewed positive (i.e., more negativity). Cultural stigma was associated moderately with less group outness but did not correlate with psychological distress.

### Interaction of Group and Individual Processes

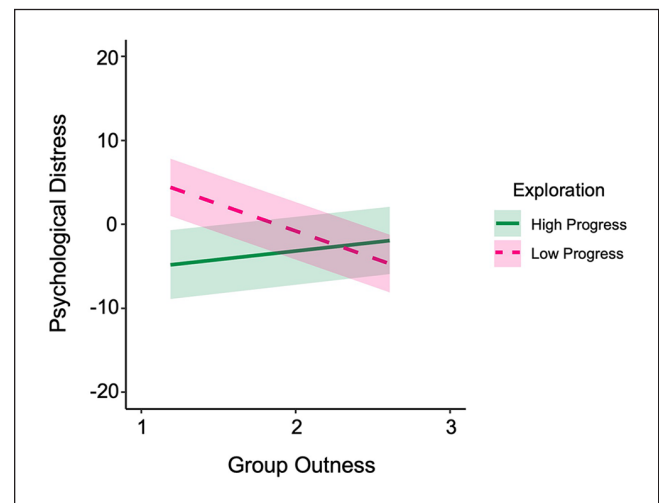
**Group Outness  $\times$  Exploration.** Table 5 shows that group outness and engagement in exploration interacted to predict psychological distress (see Figure 2). Less group outness was associated with increased distress.

Probing of the interaction revealed that the negative association of group-level outness and distress was not significant among participants who reported lower engagement in exploration ( $B = -6.62$ ,  $SE = 3.76$ ,  $t = -1.09$ ,  $p = .089$ ). The association also was not significant at higher levels of exploration ( $B = 1.45$ ,  $SE = 3.75$ ,  $t = 0.39$ ,  $p = .702$ ). However, inspection of the Johnson-Neyman interval (see the Supplemental Material for plot) showed that the association of group outness and distress was significant for participants at or below average values of 1.9 in exploration progress (more than 1  $SD$

**Table 5.** Results from Mixed Model Testing Interaction of Group Outness and Exploration.

	Psychological Distress			
	B	SE	t	p
Cultural Stigma	5.03	4.19	1.20	.243
Group Outness	-15.77	5.77	-2.73	.007**
Outness (GMC)	-2.87	1.29	-2.23	.026*
Exploration	-10.03	3.54	-2.84	.006**
Group Outness $\times$ Exploration	4.39	1.72	2.55	.012*
	$\sigma^2$			
Exploration Slope	4.46			
Group Intercept	43.59			

Note. GMC = Group-Mean-Centered; B = unstandardized regression coefficient;  $\sigma^2$  = variance; \*\* $p < .01$ ; \* $p < .05$ .

**Figure 2.** Association of Group Outness and Psychological Distress by Exploration Progress.

Note. The y-axis shows the bounded range in estimated marginal means for distress. High and low levels are  $\pm 1$   $SD$  around the mean. Ribbons extend  $\pm 1$  standard errors.

below the mean). Group-mean-centered outness predicted decreased distress. The fixed effects explained 5.3% of the variance in distress.

**Table 6.** Results from Mixed Model Testing Interaction of Group Outness, Exploration, and Positive Meaning-Making.

	Psychological Distress			
	B	SE	t	p
Cultural Stigma	4.37	3.90	1.12	.276
Group Outness	-51.55	15.75	-3.27	.001**
Outness (GMC)	-2.36	1.26	1.87	.062
Positive Meaning-Making	-14.91	7.08	-2.11	.036*
Exploration	-20.08	9.61	-2.09	.037*
Positive x Exploration	3.04	2.04	1.49	.137
Group Outness x Positive	8.75	3.56	2.46	.014*
Group Outness x Exploration	14.39	4.74	3.04	.003**
Group Outness x Positive x Exploration	-2.48	1.02	-2.43	.016*
$\sigma^2$				
Group Intercept	68.05			

Note. GMC = Group-Mean-Centered; B = unstandardized regression coefficient;  $\sigma^2$  = variance; \*\* $p < .01$ ; \* $p < .05$ .

**Table 7.** Results from Tests of Simple Slopes for the Association of Group Outness and Distress.

			Psychological Distress			
			B	SE	t	p
Group Outness	Low Positive	Low Exploration	-10.81	3.88	-2.96	.008**
	Low Positive	High Exploration	2.96	4.23	0.70	.487
	High Positive	Low Exploration	-0.69	4.79	-0.15	.885
	High Positive	High Exploration	-0.83	3.85	-0.22	.831

Note. B is unstandardized regression coefficient; \*\* $p < .01$ .

### *Group Outness × Positive Meaning-Making × Exploration.*

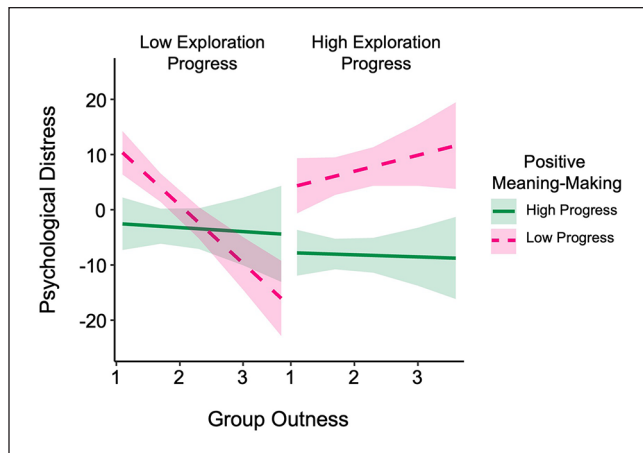
Table 6 shows that group outness interacted with both positive meaning-making and exploration to predict distress. Less group outness predicted increased distress, and this significant three-way interaction remained controlling for cultural stigma, which did not predict distress. Probing of the three-way interaction revealed the synergistic impact of low levels of positive meaning-making and low levels of exploration on the association of group outness and psychological distress. Inspection of simple slopes (Table 7) showed that the negative association of group outness and psychological distress was significant only at low levels of both positive meaning-making and exploration (see Figure 3). Finally, group-mean-centered outness did not predict distress. Altogether, the fixed effects explained 10.9% of the variance in distress.

## Discussion

In this sample, less group-level outness in the social environment interacted with individuals' current progress in exploration to predict psychological distress. As before, the association was significant only for individuals reporting

lower levels of progress in identity development. Findings suggest that the group may facilitate early progress toward a clear identity, but if less group outness in the social environment undermines this path, it may compromise psychological well-being. Finally, the significant three-way interaction between less group outness, positive meaning-making, and exploration highlights that the two processes are distinct—both impacted by group inaccessibility, controlling for the other. The impact of less group outness on distress was significant only for participants at low levels of each process. It may be that once the group has facilitated sufficient progress toward development in one process, it might mitigate the impact of low progress in the other.

As in Study 1, individual-level outness (i.e., group-mean-centered) did not predict distress. Finally, associations emerged above and beyond the influence of cultural stigma. Although we did not find an association between cultural stigma and distress in our data, cultural stigma and group-level outness correlated relatively strongly. While cultural stigma could have driven the association of group-level outness and distress, our findings were robust to this potential confound. These results thus highlight that the identity group is a unique, consequential portion of the social environment



**Figure 3.** Association of Group Outness and Psychological Distress by Progress in Exploration and Positive Meaning-Making. Note. The y-axis shows bounded range in estimated marginal means for distress. High progress and low progress are  $\pm 1$  SD around the mean. Ribbons extend  $\pm 1$  standard errors.

for individuals with concealable stigmatized identities—whose low visibility and accessibility may constrain identity development and psychological well-being.

## General Discussion

People who are stigmatized along concealable features report significant psychological distress (Quinn et al., 2014). Identity is a core contributor to this distress (Quinn & Chadoir, 2009), but less research has considered the role of development. The current studies conceptualized individuals as developing perceivers of group members, highlighting a novel source of distress: less group outness in the social environment. Group-level outness interacted with progress in positive meaning-making and exploration to predict increased distress, associations which were significant only for people reporting less progress in these processes. The negotiation of a positive and clear identity is critical for the psychological well-being of people with many concealable stigmatized identities (Park, 2010), but the low visibility and accessibility of group members may undermine these processes. While research typically considers individuals as varying in outness among non-stigmatized counterparts, these studies reveal how similarly-stigmatized individuals may impact one another through their outness, potentially constraining one another's identity development and psychological well-being.

Findings simultaneously suggest bounds on the social-developmental function of the group. In both studies, null associations at greater levels of prior engagement in exploration and positive meaning-making suggest that the identity group may play a critical role particularly at earlier phases of

identity development. Continued group access can be important to maintain psychological well-being for identities that typically are more group-like entities (Haslam et al., 2018). For people with many concealable identities, the identity group may play less a social belongingness role and functions more so to transform views of the self, with implications for well-being. In fact, the three-way interaction in Study 2 suggests that once sufficient progress toward either understanding an identity or making positive meaning has been realized, less outness among similar others may no longer significantly impact psychological well-being. That is, through increased visibility and accessibility, the group may provide an initial boost in identity development, with implications for psychological well-being.

It is notable that individual-level (i.e., group-mean-centered) outness did not predict psychological distress. Much previous research has found that outness predicts psychological well-being, but other studies have found no association (e.g., Pachankis et al., 2020). The current null effects appear to contribute to this broader inconsistency in the literature, but our results also may provide some context for it. In the current research, the effects of outness on distress concentrated at the group level, such that when the group and individual components controlled for one another, only group outness predicted distress. It may be that outness is a multi-level phenomenon, often operating primarily at higher levels to impact the individual. Previous research may have missed nuance between the individual- and group-level effects of outness on distress, which might account for some null individual effects between outness and psychological well-being in the literature.

In fact, it is possible that outness operates at the individual level to impact distress in fewer cases than might be presumed. Much outness research has focused on sexual minorities (Pachankis, Mahon, et al., 2020), who report high identity importance (Hinton et al., 2022), and in studies of people with multiple identities, individuals often report on the identity that they deem most important (e.g., Quinn et al., 2014). In the current research, we did not select on importance. Importance is a meaning, and selecting on it could have limited variation in the developmental processes we explored. Further, the group-level outness variable was derived from similarly-stigmatized individuals in the sample, and any group member was theorized as possibly stimulating development (regardless of its importance to that group member). If prior research has found bivariate associations among identity groups (e.g., sexual minorities) or individuals high in identity importance, our sampling could explain the null individual-level association. It may be that the association of individual outness and distress is not representative of all stigmatized groups, or it does not reproduce across multiple stigmatized identities represented in an individual's self-concept. Perhaps in these cases, as our results

suggest, outness processes proceed primarily at the level of the group, possibly implicating identity meanings other than importance.

Altogether, in uncovering the influence of group-level processes on the individual, the current research suggests several directions for future research. To understand the role of the group in development, it will be important to understand the nature of the group itself. Understanding the group will shed light on why less group outness might undermine identity development and mental health. For example, in Study 2, cultural stigma predicted less group outness, but outness is likely multiply-determined. For instance, groups can be incorporated into the self-schema as well, comprising social identity (Leach et al., 2008). The personal and social aspects of identity are distinct, and aspects of social identity likely impact levels of outness. Does the individual think of themselves and others as group members? That is, are these groups considered cohesive entities? If so, does the individual feel solidarity, and want to be associated, with similarly-stigmatized others? Individuals' answers to these layered questions likely drive their decisions to disclose, which may provide greater context for the processes observed in the current studies.

Relatedly, in the current research, we conceptualized individual targets as perceivers, who may be looking for (and categorizing) features in others as they seek out group members. What happens, however, when those group members' categorization and stereotyping of similarly-stigmatized others renders them social-psychologically equivalent to a prejudiced non-stigmatized counterpart? That is, group members' outness may reflect their anticipation of stigma from non-stigmatized counterparts, but it also may reflect their own negative views about similarly-stigmatized others. It is possible that complex intra-group processes, such as low social identity or group-directed prejudice, underlie the processes seen here. For example, emerging research with sexual minorities has highlighted the psychosocial strains that group members can enact on one another, above and beyond those typically traced to stigmatization by heterosexual counterparts (Pachankis, Clark, et al., 2020). Future research might explore this possibility for the variety of groups sampled in the current research.

The second direction for future research is understanding the relationship between identity process and content—the meanings constructed or changed. The valence and magnitude of concealable stigmatized identities are two kinds of meaning that predict (increased) distress (Quinn & Earnshaw, 2013). While valence connotes the degree of negativity ascribed to an identity, magnitude describes its size in the self-schema. In the current research, our positive meaning-making measure captured both engagement in the process and its outcome: positive meaning. Thus, positive meaning-making likely entails progress toward positive identity content, shaping identity valence. However, it also likely

contributes to identity importance—identity content connoting greater magnitude. Importance predicts increased distress for people with concealable stigmatized identities (Quinn & Chaudoir, 2009), but if this significance is constructed through positive meaning-making, it may be protective for mental health. Less group outness then may contribute to increased distress by undermining the conversion of negative significance and its integration among positive, significant aspects of the self.

Less engagement in exploration implicates less understanding, although our measure of exploration did not also capture achieved understanding. While such clarity is likely a meaning in and of itself, thwarted exploration likely precludes identity mastery—the kind of understanding that makes an identity manageable in the self-schema. Self-definitional identities predict psychological distress (Quinn et al., 2014). Self-definition is a meaning that connotes large magnitude, and development may involve the shrinking of identities in some cases. Indeed, this mechanism may be how addiction support groups shape identity content to buffer against psychological distress for people with addiction (i.e., it does not define the self; Quinn et al., 2014). If an identity is not understood and is unprocessed, it may remain a difficult-to-integrate, oversized definition of the self (e.g., Pennebaker, 1993). Thus, group-level constraints on exploration may predict distress by rendering it more difficult to achieve identity mastery. Future research should examine these potential nuances in identity content and process and the role of the group in shaping them.

In addition to characterizing the group and identity development, future research might consider the likely intersectional nature of the current processes. For many individuals with concealable stigmatized identities, constraints on identity development are likely compounded if they are also stigmatized along more external features, such as those used to label race-ethnicity, gender, or weight. If concealable identity group members in the social environment who are more out would reject the stigmatized individual based on these more external features, they are not accessible for interaction and likely negative options for role-modeling and vicarious learning. More likely is that two individuals in an interaction share the same concealable identity (but both are concealed), with rejection based in external features undermining concealable identity development, but neither individual is any the wiser that this has occurred. Thus, stigmatization at the intersection of concealable and external features likely makes it more difficult to develop a positive and clear concealable stigmatized identity.

There are limitations to these studies. First, these data are cross-sectional. Although our interpretation is that group-level outness predicts distress by reducing group visibility and accessibility in the environment, the reverse direction is possible. Groups who are experiencing psychological distress may choose not to disclose their identities to avoid



stigmatization. Future research should examine these research questions with methods that afford increased causal inference, such as longitudinal designs. Second, college students are not a generalizable population. The theorizing motivating these studies presumes that these processes can emerge at any age. However, participants may have been experiencing broad developmental change due to their age, and stigmatized identity processes might have been confounded with global identity development. Future research should examine whether these patterns reproduce in a self-contained community setting diverse in age.

Finally, validation analyses showed that group-level outness predicted an individual's knowledge of, and contact with, those group members, but we did not examine the precise mechanism through which less group-level outness constrains development. The impact of less outness on development could reflect less group contact, fewer visible role models, and less vicarious learning from group members. These latter two forms may be tied more so to the concealability of an identity than to non-disclosure and active concealment. Indeed, convergent validity for the outness variable showed that it captured less disclosure, as well as tapping into how discernible individuals considered their concealable features. Thus, future research would benefit not only from understanding how less outness undermines development but more precisely what form of concealment (e.g., passive concealability, choosing not to be out, or active concealment to remain hidden; Pachankis et al., 2020) best characterizes the associations observed in the current research.

There are significant strengths to this research. First, very little work has examined the role of the identity group in the lives of people with concealable stigmatized identities. The term "social environment" typically connotes the impact of non-stigmatized others on people with stigmatized identities. The current studies are some of the first to expand our understanding of the social environment—highlighting the role of similarly-stigmatized others—whose low visibility and inaccessibility are a unique source of influence on individuals, above and beyond the impact of non-stigmatized counterparts. The second major strength is our sampling approach. The use of an undergraduate research pool permitted a partially-controlled, naturally-occurring context to examine how group outness in the social environment impacts individuals. The current research questions could not be answered with online participants who do not comprise the same social environment, and it would be difficult to organize a study with a self-contained community sample that is diverse in age.

In all, the current studies increase our understanding of concealable stigmatized identities. Because many people will be stigmatized in their lives (particularly along concealable features; Goffman, 1963), individual-level rates of depression and anxiety outcomes have consequences for public mental health (Hatzenbuehler et al., 2013). Yet, most stigma research proceeds at the individual- or situation- level

(e.g., Cook et al., 2014). To move toward mitigation efforts at the population level, it is important to gain a fuller appreciation of the broad, systemic nature of the phenomenon. In examining how the development of concealable identities—movement toward a positive and clear identity—may be constrained by dynamics of the social environment, the current research highlights how broader social forces may shape mental health for people with concealable stigmatized identities.

### Author Contributions

A.C. conceptualized the studies, collected the data, and drafted the manuscript. G.N. contributed to the study design and edited the manuscript. A.C. and G.N. conducted analyses. The authors thank Diane M. Quinn, the associate editor, and two anonymous reviewers for helpful feedback on previous drafts.

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### Supplemental Material

Supplemental material is available online with this article.

### Notes

1. McNeish and Stapleton (2016) recommended cluster sizes of 5 to 30, but we aimed for at least 10 participants per group, retaining groups with at least five individuals.
2. We used an exploratory identity centrality variable (i.e., importance) to examine if not selecting on importance impacted results: centrality did not moderate the two-way interaction. Given our selection on anticipated group prevalence, we also examined if assignment based on recruitment ranking or actual prevalence (derived from the identity checklist) drove the effect. Results are robust to both ranking and prevalence. These analyses suggest that (group-facilitated) development of many (or all) of an individual's identities and the multiple meanings for each may matter for psychological well-being, aside from ascribed importance. Furthermore, the group effect appears social rather than numerical: driven by access, rather than availability.
3. Conclusions remain the same with participants excluded for attention checks, as well as with excluded groups (see the Supplemental Material).
4. Results are robust to the individual's relationship to the University ecosystem. They similarly do not change controlling for timing of participation (see the Supplemental Material).

5. In exploratory analyses, we established construct validity for our outness variable (see the Supplemental Material).
6. We report only unstandardized coefficients, as rescaling at zero is incompatible with our partitioned outness variable.
7. As in Study 1, effects are not moderated by individual-level identity centrality, and results are robust to the inclusion of ranking and group-level prevalence as covariates.
8. Conclusions remain the same with participants excluded for attention checks, as well as with excluded groups (see the Supplemental Material).
9. Results are robust to the individual's relationship to the University, and results also do not change when controlling for the timing of survey completion during the semester (see the Supplemental Material).
10. For exploratory validation of outness and cultural stigma, see the Supplemental Material.

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