

It's Like Herding Cats: Atheist Minority Stress, Group Involvement, and Psychological Outcomes

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Using minority stress theory with a sample of 522 atheist people from the United States, the present study examined the associations of discrimination, proximal minority stressors (stigma consciousness, internalized antiatheism, outness as atheist), and atheist group involvement with psychological distress and self-esteem. Atheist group involvement was associated positively with outness and self-esteem, and negatively with discrimination. Structural equation modeling indicated that discrimination and stigma consciousness yielded significant positive direct relations with distress, whereas outness yielded a significant negative direct relation with distress. Relatedly, discrimination yielded a significant negative direct relation with self-esteem and outness yielded a significant positive direct relation with self-esteem. There was a significant positive unique indirect relation of antiatheist discrimination with distress via the mediating role of stigma consciousness, but no other proximal variables. Multigroup invariance testing of this model did not yield evidence that the pattern of relations of the minority stressors with mental health outcomes differed significantly between participants who were and who were not involved in an atheist group. Implications of these findings for research, practice, and advocacy are discussed.

Public Significance Statement

Atheist people in the United States experience marginalization that can take the form of discrimination and/or stigma because of their religious nonbelief. These negative experiences may contribute to poorer mental health outcomes (i.e., increased distress; lower self-esteem). Being involved in a community of other atheist people may be associated with some benefits, such as higher self-esteem.

Keywords: atheism, community involvement, minority stress, secular, stigma

Atheist people represent an increasingly large proportion of the United States, with rough estimates placing nonbelievers at more than 20% of the population (Gervais & Najle, 2018). More precise estimates are obfuscated by (a) variations in the definition of atheism that range from an active opposition to the existence of a God/gods to ambivalence/agnosticism (Bullivant, 2013; Zuckerman, 2007) and (b) that nonbelieving people are unlikely to be “out” as atheist because of the social stigma surrounding this term

(Brewster, 2014). Research indicates that Americans endorse a variety of stereotypes about atheist people, including beliefs that they are angry, untrustworthy, hedonistic, and impulsive (Gervais, Shariff, & Norenzayan, 2011; Meier, Fetterman, Robinson, & Lappas, 2015; Saroglou, Yzerbyt, & Kaschten, 2011). Despite acknowledgment of stigma toward and discrimination against nonbelievers, atheist individuals are not typically positioned as a marginalized or minority group—a problem which may lead to isolation, invisibility, and a lack of community resources (Abbott & Mollen, 2018; Brewster, 2014; Sahker, 2016). Indeed, according to Putnam (2000), faith communities are “arguably the single most important repository of social capital in America” (p. 65). Churches and temples serve as hubs in many areas, wherein congregation members and neighbors may access seminars, food pantries, social services, and build strong community ties (Monrose, 2012).

Prior research from a minority stress framework indicates that for other marginalized populations (i.e., people of color, LGBTQ individuals) community-level coping strategies such as group involvement is an important buffer of minority stress (Bockting, Miner, Swinburne Romine, Hamilton, & Coleman, 2013; DeBlaere et al., 2014; Jasperse, Ward, & Jose, 2012; Szymanski & Owens, 2009).

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A preliminary report of partial data from the study described in this article was presented at the 2017 annual meeting of the American Psychological Association under the title “Non-Believing Community Participation as a Buffer of Minority Stressors.”

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In this way, community-level coping may be a protective factor against the development of depressive symptomatology, and even reduce symptoms for individuals who are depressed (Cacioppo, Hawkley, & Thisted, 2010; Cruwys et al., 2013). Without such support, consequences may be dire; social isolation is linked to increased risk for poor health, decreased psychological well-being, and early mortality (Cacioppo & Cacioppo, 2014; Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015). Unfortunately, atheist minority stress presents a unique dilemma for psychologists because many of the community-level resources and coping strategies available to other marginalized populations—often via religious or spiritual groups—are not accessible to nonbelievers.

Faith-based groups are, by far, the largest community organizers in the United States. Surveys on religious involvement in the United States have suggested that approximately 78% of Americans identify with a religious group (Pew Research Center, 2015). Research findings on the impact of religiosity itself on mental health and well-being are mixed, but some aspects of religion—particularly community involvement—have been found to be helpful in dealing with stress (for a review, see Koenig, 2015). Although there has been a rise in the availability of community groups explicitly for nonbelieving and/or atheist people (e.g., Sunday Assembly), little is known about how affiliation with these groups impacts well-being. Additionally, atheist individuals have been historically wary of community-level organization (Dawkins, 2006), which may limit more widespread benefits of these new-found communities. Qualitative research has begun to highlight the potential benefits of atheist groups (Smith, 2013, 2017), but this is the first study to explore atheist group involvement as a buffer of minority stress on mental health.

Atheist People in the United States

In a country where religiosity and belief in God/gods is considered the norm, being “out” as an atheist (i.e., open and forthright about nonbelief in daily life) is rare and can be isolating (LeDrew, 2013). As a result, atheist people and other nonbelievers have increasingly sought spaces to build community and interact with likeminded others; however, large-scale community involvement remains a challenge. Prominent—and controversial—*New Atheist*¹ figure Richard Dawkins (2006, pp. 4–5) has noted that:

Indeed, organizing atheists has been compared to herding cats, because they tend to think independently and will not conform to authority. But a good first step would be to build up a critical mass of those willing to “come out,” thereby encouraging others to do so.

Although notable challenges with starting atheist groups persist, a few communities that cater to the needs of those who are apostates (or lifelong nonbelievers) have proliferated since the early 2000s. Sunday Assembly, Society for Ethical Culture, and Oasis, for example, provide a weekly or monthly “church-like” experience for people wherein members sing together, hear a meaningful secular sermon, and share a meal. Some groups even provide educational services for children (parallel to Sunday school) and/or social justice initiatives (i.e., volunteering at shelters).

Despite the proliferation of these groups, broader negative attitudes toward atheist people and other nonbelievers remain pervasive. Prior research illustrates that atheist individuals experience

forms of discrimination (e.g., slander, denial of opportunities, hate crimes) similar to other marginalized groups members (Brewster, Hammer, Sawyer, Eklund, & Palamar, 2016; Cragun, Kosmin, Keysar, Hammer, & Nielsen, 2012; Hammer, Cragun, Hwang, & Smith, 2012; Swan & Heesacker, 2012). Discrimination against those who identify *specifically* as atheist may be more pronounced than it is for those who identify as nonreligious, because the label “atheist” heightens outgroup status as someone who does not believe in God/gods and therefore may be lacking in morality or dangerous (Gervais et al., 2011; Meier et al., 2015; Saroglou et al., 2011).

Atheist Minority Stress and Psychological Outcomes

Considering the pervasive stigma and negativity toward atheist people in the United States, understanding how these attitudes shape mental health for nonbelievers is critical (Brewster, Robinson, Sandil, Esposito, & Geiger, 2014). One framework that helps to contextualize the impact of stigma is *minority stress theory*, which suggests that social stressors associated with membership in a stigmatized group can result in poor physical and mental health outcomes (Meyer, 1995, 2003). Consistently, both cross-sectional and longitudinal data indicates that minority stress is related to a variety of negative psychological outcomes, including higher rates of psychological disorders, increased depression and anxiety, substance use, and suicidality across diverse populations (for a review, see Meyer, 2015; Pachankis, Sullivan, Feinstein, & Newcomb, 2018; Thoits, 2010). Minority stress is the result of both *distal* (i.e., external and direct experiences of discrimination or systemic exclusion) and *proximal* stressors that stem from experiences of distal stressors (i.e., subjective, evaluative, or internal processes including stigma consciousness, identity concealment, and internalized negative attitudes about one’s identity).

Later refinements to minority stress theory posited that a mediational framework may more comprehensively explain relations among distal and proximal variables (Hatzenbuehler, 2009) and has also been well-supported with longitudinal research (Dyar & London, 2018; English, Rendina, & Parsons, 2018; Mohr & Sarno, 2016). Thus, this study takes an exploratory first look at Hatzenbuehler’s (2009) model of minority stress theory with atheists by testing the direct and indirect effects of antiatheist discrimination on psychological outcomes (i.e., distress, self-esteem) via proximal stressors (i.e., stigma consciousness, internalized negativity, and identity concealment). Refinements to the minority stress framework have also begun to point to community-level coping strategies that may serve to mitigate the impact of discrimination and have been supported with diverse populations (DeBlaere et al., 2014; Velez & Moradi, 2016); thus, the role of atheist group involvement as a buffer of minority stress was explored.

¹ *New Atheism* is used to describe the “characteristically petulant and provocative, challenging yet cranky, urgent but unformed” antireligion and anti-God social movement sparked by the writings of Richard Dawkins, Sam Harris, Christopher Hitchens, and Daniel Dennett (Amarasingam, 2010, p. 1). It is worth adding that leaders within the New Atheist movement and secular organizations have launched numerous operations to encourage atheist people to “come out” and openly express their non-belief—including billboard campaigns.

Distal and Proximal Minority Stressors for Atheist People

Discrimination. The negative impact of the distal minority stressor, discrimination, on mental health and well-being is well-established in the psychological literature (for a review, see Britt-Spells, Slebodnik, Sands, & Rollock, 2018; Jones, Peddie, Gilrane, King, & Gray, 2016). Studies with atheist individuals report that many have experienced discrimination based on their identity in the forms of slander, coercion, social ostracism, denial of opportunities, and hate crimes (Hammer et al., 2012). Such discrimination often manifests in hurtful interpersonal interactions such as statements about one's perceived immorality (for a review, see Brewster et al., 2016). Though few studies exist, those available indicate that experiences of atheist discrimination are associated with negative mental health outcomes, including decreased physical and psychological well-being and increased depressive symptomatology and loneliness (Brewster et al., 2016; Cheng, Pagano, & Shariff, 2018; Doane & Elliott, 2015).

Stigma consciousness. Parallel to findings with discrimination, there is also widespread research that the proximal stressor, stigma consciousness (sometimes termed expectation of rejection or rejection sensitivity)—broadly defined as the recognition and/or anticipation that your identity will be devalued—is linked to depression, anxiety, somatization, and overall distress (Bockting et al., 2013). An examination of stigma consciousness in individuals with concealable identities (e.g., mental illness, drug use, sexual orientation) suggested that the worry about potential stigma was a strong predictor of distress and decreased physical well-being even in the absence of specific instances of discrimination (Quinn & Chaudoir, 2009). Stigma consciousness has been shown to mediate the impact of discrimination on mental health outcomes in prior studies with diverse populations (Kao et al., 2016; Quinn, Williams, & Weisz, 2015), including in longitudinal studies (Mohr & Samo, 2016). Though no known studies have yet to examine these same indirect effects with atheist participants, one study did report that stigma consciousness was associated positively with experiences of atheist discrimination, distress, and loneliness (Brewster et al., 2016). Another recent study with atheist individuals reported that anticipated stigma was related positively with physical health concerns and negatively with psychological well-being (Abbott & Mollen, 2018).

Internalized antiatheism. When one's identity or cultural practices are denigrated in a society, individuals belonging to these groups may begin to internalize these negative messages or attitudes about their group; for example, racial and ethnic minorities in the United States may develop schemas related to inferiority and negativity (David & Okazaki, 2010). Several studies have examined the mediating role of internalized negativity on the link between external stressors and well-being (i.e., Dyar, Feinstein, Eaton, & London, 2018; Walsh, Sagis-Krebs, & Gross, 2018), including support for its role as mediator longitudinally (Dyar & London, 2018; Mohr & Samo, 2016; Rendina, Millar, & Parsons, 2018). In one study with sexual minority adults, researchers found that internalized homonegativity mediated the relation of parental rejection after coming out with distress (Puckett, Woodward, Mereish, & Pantalone, 2015). Although research on internalized antiatheism is limited, studies have found numerous negative stereotypes attributed to atheist individuals (Brewster et al., 2016;

Gervais et al., 2011). It is likely that members of this group would also internalize negative beliefs held by society.

Outness. Individuals with a concealable stigmatized identity may be able to “pass” and avoid instances of discrimination (Quinn & Chaudoir, 2009). However, concealing one's identity can result in negative psychological outcomes (for a review see Chaudoir, Earnshaw, & Andel, 2013). Disclosing, or “coming out,” to others with regard to a stigmatized identity has been found to be associated with increased well-being in some circumstances. For instance, a prior study found that being out with a concealable stigmatized identity facilitated experiencing more positive health outcomes as a result of increased social support (Weisz, Quinn, & Williams, 2016). In a study with bisexual people, outness was a partial mediator between antibisexual discrimination and well-being, where higher levels of discrimination were related to higher levels of outness, which was positively related to well-being (Brewster, Moradi, DeBlaere, & Velez, 2013).

Because atheism is a concealable identity, similar outcomes may occur for this group, but there also are notable differences in experience. Specifically, atheist people are likely more capable of controlling disclosures about their nonbelief (i.e., timing, content of “coming out” narrative) than other marginalized groups whose identities may be tied to romantic relationship status (i.e., LGB people), access to resources (i.e., gender expansive people), or wellness (i.e., people living with invisible health conditions). Recent qualitative studies have offered insights into the nature of identity concealment in atheist people. Researchers have introduced the notion of the *silent atheist* who, out of concerns related to stigma and discrimination, often pass as a believer or avoids disclosing their atheism (Smith, 2013). In one of the only known studies of atheist identity management, Abbott and Mollen (2018) reported that outness as atheist was positively related to psychological well-being and negatively related to poor physical health, whereas concealment yielded relations in the opposite direction.

Atheist Group Involvement as Community-Level Coping

Decades of research indicates that community or group involvement promotes mental health and well-being across diverse groups (for a review, see Koenig, 2015; Roth, Usher, Clark, & Holt, 2016). Further, research with marginalized groups suggests that community involvement can be helpful in buffering the deleterious effects of minority stressors (Jasperse et al., 2012; Singh & McKleroy, 2011). For example, in a study with HIV-positive Latino gay men, antigay stigma was positively related to depression and loneliness, and negatively related to self-esteem; however, men with high levels of community involvement showed increased resilience to the deleterious impact of this stigma (Ramirez-Valles, Fergus, Reisen, Poppen, & Zea, 2005).

Particularly for groups that may be socially or geographically isolated, such involvement can be critical. For example, a recent article in *The Atlantic* described attending Oasis—a network for atheist people in the Bible Belt—as “a less lonely way to lose your faith” (Anderson, 2016). Though atheist people have historically lacked rituals and rites parallel to their religious counterparts (e.g., weekly church services, missionary trips, baptisms, bar/bat mitzvahs, etc.), those who *do* engage in organized groups may experience psychological benefits from this involvement. Truly the first

of study of its kind, [Smith's \(2017\)](#) qualitative fieldwork with one organized secular group (Sunday Assembly) illustrated a variety of benefits for its participants including a sense of moral community, social solidarity and belongingness, the absence of dogma and worship, meaningful rituals, and intellectual and emotional connection with other members. Moreover, [Abbott and Mollen's \(2018\)](#) large-scale study with atheist people reported that "in-group ties" were positively related to psychological well-being and negatively related to poor physical health.

The Present Study

Drawing from prior minority stress research, we expected that discrimination, stigma consciousness, and internalized antiatheism would each be related significantly and positively with distress and negatively with self-esteem, but outness would yield inverse relations (Hypothesis A). Furthermore, we predicted that atheist group involvement would be related significantly and negatively to distress and positively to self-esteem (Hypothesis B). In an exploratory examination of recent mediational extensions of minority stress theory, we anticipated that stigma consciousness, internalized negativity, and outness would each mediate the positive indirect association of antiatheist discrimination with distress and the negative indirect association of antiatheist discrimination with self-esteem (Hypothesis C). Finally, we expected that atheist group involvement would weaken the impact of the minority stressors on both distress on self-esteem (Hypothesis D).

Method

Participants

All 522 participants were from the United States with age ranging from 18–96 years old ($M = 38.89$, $SD = 17.78$, $Mdn = 35$). In terms of gender, approximately 68% of the sample identified as women, 29% as men, and 3% as another gender (e.g., gender nonconforming, nonbinary). Regarding race/ethnicity, approximately 72% identified as White, 6% as Hispanic/Latino/a, 6% as African American/Black, 6% as Multiracial, 4% as Asian American/Pacific Islander, 4% as other race (e.g., Arab, Biracial), and 2% as Native American/Indigenous American. For sexual orientation, approximately 54% identified as exclusively heterosexual, 19% as mostly heterosexual, 11% as bisexual, 8% as another orientation (e.g., queer, pansexual, asexual), 6% as exclusively gay/lesbian, and 2% as mostly gay/lesbian. In terms of education, approximately 66% of participants completed college, 29% completed some college, 4% completed high school, and 1% completed some high school. For employment status, approximately 51% were employed full-time, 32% unemployed, and 17% employed part-time. In terms of social class, 42% identified as middle class, 25% identified as working class, 24% as upper-middle class, 7% as lower class, and 2% as upper class. In terms of geographic region, approximately 53% identified as living in suburban, 33% in urban, and 14% in rural areas. Most common states of residence reported: California (9%), New York (9%), Florida (8%), Maryland (6%), Texas (5%), and North Carolina (4%).

To participate in the study, all participants affirmed that they self-identified as atheist; however, approximately 66% reported

that their "preferred" label was atheist and 34% preferred to use other descriptors of nonbelief (e.g., agnostic, skeptic, freethinker, secular humanist). Approximately 76% of participants had been raised as Christian, 6% as nonbelievers (e.g., atheist and/or agnostic), 5% as no religion (but not a nonbeliever), 4% as Jewish, 4% as Muslim, 4% as Other (e.g., nondenominational). Of the current sample, 29% indicated that they were involved in a secular community.

Procedure

Data analyzed in the present study were collected in 2017 as a part of an Institutional Review Board–approved study on the mental health and well-being of atheist people in the United States. Virtual communities for atheist people, blogs, and listservs (e.g., Tumblr, Facebook pages) were used for recruitment, as well as targeted outreach to secular communities (e.g., Oasis, Sunday Assembly, Society for Ethical Culture) via personal contacts and mailings lists. In order to participate, individuals had to (a) be 18 years of age or older, (b) identify as atheist, and (c) currently live in the United States. The survey was accessed online and hosted by Qualtrics, an online survey platform. After reading the study description, individuals were asked to provide informed consent and to confirm that they met the inclusion criteria, after which they could continue to complete the survey. A total of 711 individuals consented and started the survey, but 174 of these cases were removed from the data set because they were missing more than 20% of the data (excluding demographic questions; [Parent, 2013](#)). Another 15 participants were removed for missing more than one of our attention check questions. These data cleaning procedures resulted in a final sample of 522 participants.

Measures

Antiatheist discrimination. The 25-item Measure of Atheist Discrimination Experiences (MADE; [Brewster et al., 2016](#)) was used to assess perceived experiences of antiatheist discrimination. Participants used a 6-point Likert scale (from 1 = *never* to 6 = *almost all of the time*) to indicate how frequently they have experienced atheist discrimination (e.g., "I have been asked to pretend that I am not atheist"). Item responses were averaged with higher scores indicating more frequent experiences of atheist discrimination. In past research, reliability has been demonstrated with diverse samples of atheist individuals and yielded Cronbach's alpha of .94 and .95 for the MADE general factor ([Brewster et al., 2016](#)). Convergent validity for the general factor was supported through positive relations with stigma consciousness and awareness of public devaluation and concurrent validity was supported through positive relations with loneliness and distress ([Brewster et al., 2016](#)). Internal consistency reliability for MADE general factor items with the current sample was .95.

Stigma consciousness. The 10-item Stigma Consciousness Questionnaire (SCQ; [Pinel, 1999](#)) was modified and used to assess awareness of atheist stigma. Participants used a 7-point Likert scale (1 = *disagree strongly* to 7 = *agree strongly*) to indicate awareness of social stigma against one's group. In prior research, the SCQ has been modified for use with diverse populations (e.g., women, people of color), including atheist individuals ([Brewster et al., 2016](#)). Modified items for the use with atheist individuals were

used in the present study (e.g., “Most religious people have a lot more anti-atheist thoughts than they actually express”). Items reflecting positive perceptions toward one’s social group (e.g., “My being atheist does not influence how religious people act with me”) were reverse scored and all items were averaged with higher scores indicating greater perceived awareness of atheist stigmatization. Reliability for the modified SCQ was supported with a diverse sample of atheist individuals and yielded Cronbach’s alpha of .73 and convergent validity for the modified SCQ was supported through positive relations with perceived atheist discrimination (Brewster et al., 2016). Internal consistency reliability for the modified SCQ items with the current sample was .84.

Internalized antiatheism. The three-item Internalized Homonegativity and three-item Difficult Process subscales of the Lesbian, Gay, and Bisexual Identity Scale (LGBIS; Mohr & Fassinger, 2000) were combined and modified to assess respondents’ negative views and feelings about themselves as atheist. Participants used a 7-point Likert scale (1 = *disagree strongly* to 7 = *agree strongly*) in response to modified questions from the Internalized Homonegativity (IH; e.g., “I wish I were a believer in God”) and Difficult Process (DP) subscales (e.g., “Admitting to myself that I am atheist has been a very painful process”) to indicate how strongly they held negative beliefs about their atheist identity.² Items reflecting a positive atheist identity were reverse scored and all items were averaged with higher scores indicating greater internalized negativity of atheist identity. Reliability for the combined LGBIS-IH and LGBIS-DP items has been supported with a diverse sample of LGB individuals and yielded Cronbach’s alphas of .76 to .82; in terms of validity, convergent validity for the combined LGBIS-IH and LGBIS-DP items was supported through positive relations with gay-related stress (Page, Lindahl, & Malik, 2013). Internal consistency reliability for the combined LGBIS-IH and LGBIS-DP items with the current sample was .76.

Outness as atheist. The 11-item *Outness Inventory* (OI; Mohr & Fassinger, 2000) was modified and used to assess the degree to which respondents’ atheism is known or talked about within different social spheres of their life. In past research, the OI full scale has been modified for use with populations with invisible disabilities (Carlson & Davies, 2011). Modified items for the use with atheist individuals were used in the present study.³ Participants used a modified 7-point Likert scale (1 = *does not know* to 7 = *this person definitely knows about your nonbelief and it is openly talked about*) to indicate the participant’s level of outness about their atheist identity with different social spheres (e.g., “extended family members”). All items were averaged to create a total outness score, with higher scores indicating greater degree of outness. Reliability for the modified OI was supported with a diverse sample of people with disabilities and yielded Cronbach’s alpha of .86 for mental health related disabilities (Carlson & Davies, 2011). In terms of validity, convergent validity for the OI was supported with a large sample of sexual minorities through positive relations with subscales of the LGBIS such as Internalized Homonegativity and Difficult Process (Mohr & Fassinger, 2000). Internal consistency reliability for the modified OI items with the current sample was .85.

Secular community involvement. Involvement in secular community organizations was assessed using a single item, “Are you involved with any organized secular community (i.e., Oasis, Society for Ethical Culture, Sunday Assembly, or any other

group)?” Respondents were instructed to answer with a closed response (1 = Yes and 0 = No).

Psychological distress. The 21-item *Hopkins Symptom Checklist-21* (HSCL-21; Green, Walkey, McCormick, & Taylor, 1988) was used to assess the potential mental health effects of minority stress for atheist individuals. Participants used a 4-point Likert scale (1 = *not at all* to 4 = *extremely*) to indicate level of psychological distress. Items were averaged with higher scores indicating greater levels of distress. Reliability of the HCL-21 was supported with a sample of atheist individuals and yielded Cronbach’s alpha of .91 (Brewster et al., 2016). In terms of validity, convergent validity for the HCL-21 was supported through positive relations with the Brief Hopkins Rating Scale and the State Trait Anxiety Inventory (Green et al., 1988). Internal consistency reliability for the HCL-21 items with the current sample was .91.

Self-esteem. The 10-item *Rosenberg Self-Esteem Scale* (RSE; Rosenberg, 1965) was used to assess the potential effects minority stress for atheist individuals have on self-esteem. Participants used a 4-point Likert scale (1 = *strongly disagree* to 4 = *strongly agree*) to indicate level of self-esteem. Appropriate items were reverse-scored and all items were averaged, with higher scores indicating higher self-esteem. Reliability of the RSE was supported with a sample of LGB religious and nonreligious (e.g., atheist, secular) adults and yielded Cronbach’s alpha of .92 (Dahl & Galliher, 2010). In terms of validity, convergent validity for the RSE was supported through positive relations with other measures of self-esteem (Rosenberg, 1979). Internal consistency reliability for the RES items with the current sample was .92.

Results

Descriptive statistics and Cronbach’s alphas for and bivariate correlations among the manifest variables of interest are presented in Table 1. The magnitude of correlations is described using Cohen’s (1992) benchmarks for small ($r = .10$), medium ($r = .30$), and large ($r = .50$) effects. Before conducting the primary analyses, we screened the data for normality, outliers, and deviations of assumptions of regression. Inspection of skewness and kurtosis values suggested that all variables met guidelines for univariate normality (skewness <3 ; kurtosis <10 ; Weston & Gore, 2006). Examination of Cook’s distances found that none were greater than 1, which suggested that no case was unduly influencing the model (Field, 2009).

To evaluate multicollinearity, we looked for absolute correlations among variables are above .90, a variance inflation factor (VIF) above 10, or a conditioning index above 30 coupled with variance proportions greater than .50 for at least two variables (Tabachnick & Fidell, 2007); according to these standards, multicollinearity was not a concern. Inspection of Mahalanobis’ distances indicated that 11 cases were significant multivariate outliers ($ps < .001$), yet visual inspection of item responses for these cases did not evince signs of problematic responding. Thus, these cases

² Exploratory factor analysis confirmed that these modified items loaded on two factors consistent with the original instrumentation—difficult process and internalized negativity. Data available upon request from authors.

³ Exploratory factor analysis confirmed that these modified items loaded on two factors consistent with the original instrumentation—out to family and out to world. Data available upon request from authors.

Table 1

Descriptive Statistics and Cronbach's Alphas of and Bivariate Correlations Among Variables of Interest

Variable	1	2	3	4	5	6	7	Possible range	M	SD	α
1. Antiatheist discrimination	—	.66***	.27***	.10	.31***	-.16**	-.12**	1–6	2.17	0.92	.95
2. Stigma consciousness	.59***	—	.34***	-.03	.36***	-.13*	-.08	1–7	4.87	1.00	.84
3. Internalized antiatheism	.22***	.24***	—	-.34***	.25**	-.27**	-.08	1–6	2.00	0.88	.76
4. Outness	.07	-.02	-.21***	—	-.19**	.31***	.22***	1–7	4.29	1.25	.81
5. Psychological distress	.28***	.28***	.19***	-.07	—	-.72***	-.09*	1–4	1.70	0.49	.91
6. Self-esteem	-.16***	-.13**	-.24***	.21***	-.61***	—	.15**	1–4	3.06	0.63	.92
7. Atheist group involvement ^a	-.12**	-.08	-.08	.24***	-.08	.14**	—	0–1	.29	0.46	—

Note. Correlations below diagonal are among manifest variables, correlations above the diagonal are among latent variables.

^a 0 = No, 1 = Yes.

* $p < .05$. ** $p < .01$. *** $p < .001$.

were retained in the data set and the primary analyses were conducted with maximum likelihood estimation with robust standard errors (MLR), which is more robust to deviations from normality (Muthén & Muthén, 1998–2017).

Primary Analyses: Relations of Atheist Minority Stress With Mental Health

Our primary analyses consisted of latent variable structural equation modeling (SEM) in Mplus Version 8.2 (Muthén & Muthén, 1998–2017). Latent variables were constructed from manifest subscales or via the item-to-construct balance method (Little, Cunningham, Shahar, & Widaman, 2002) for unidimensional measures. In sum, these methods resulted in 16 manifest indicators (seven subscales, nine item parcels) that were used to define six latent constructs.

Measurement model. Model fit was evaluated using the comparative fit index (CFI), the residual mean square error of approximation (RMSEA), and the standardized root-mean-square residual (SRMR). For samples larger than 500, CFI $\leq .95$, RMSEA $\leq .06$, and SRMR $\leq .08$ suggest acceptable fit. The measurement model yielded excellent fit to the data, Satorra-Bentler scaled (S-B) $\chi^2(99) = 214.84$, $p < .001$, CFI = .98, RMSEA = .05, 90% CI [.039, .056], SRMR = .04. All standardized factor loadings were significant ($ps < .001$) and ranged in value from .33 to .97 ($M = .79$, $Mdn = .85$, $SD = .18$).

Correlations among latent variables of interest and the manifest variable group involvement are also in Table 1 (above the diagonal) and were largely consistent with the manifest variable correlations. Antiatheist discrimination yielded significant large positive correlation with stigma consciousness and a significant small positive correlation with internalized antiatheism, but its correlation with outness was nonsignificant. Consistent with Hypothesis A, all correlations of minority stressors with the mental health outcomes were significant. Specifically, antiatheist discrimination, stigma consciousness, and internalized antiatheist stigma yielded significant small positive correlations with distress and significant small negative correlations with self-esteem. Furthermore, outness yielded a significant small negative correlation with distress and a significant medium positive correlation with self-esteem. In support of Hypothesis B, participants involved in an atheist group involvement reported significantly lower distress and higher self-esteem than participants who were not involved in a group. Additionally, group involved participants reported significantly lower

antiatheist discrimination and higher outness; all other bivariate associations of group involvement with the variables of interest were nonsignificant.

Structural model. A structural model was estimated to test the hypothesized direct and indirect relations among the variables of interest. In addition to the hypothesized relations, this structural model estimated correlations among the presumed mediating variables (i.e., stigma consciousness, internalized antiatheism, and outness). Similarly, the two criterion variables—distress and self-esteem—were allowed to correlate. Finally, paths from the group involvement manifest variable to each of the endogenous variables (i.e., stigma consciousness, internalized antiatheism, outness, distress, and self-esteem) and the correlation of group involvement with antiatheist discrimination were estimated. The hypothesized structural model yielded excellent fit to the data, S-B $\chi^2(99) = 214.84$, $p < .001$, CFI = .98, RMSEA = .05, 90% CI [.039, .056], SRMR = .04. The model accounted for 43% of the variance in stigma consciousness, 7% of the variance in internalized antiatheism, 6% of the variance in outness, 18% of the variance in distress, and 15% of the variance in self-esteem. Using Cohen's (1992, p. 159) benchmarks for small ($R^2 = .02$), medium ($R^2 = .13$), and large ($R^2 = .26$) effects, the model accounted for a large proportion of variance in stigma consciousness, medium proportions of variance in distress and self-esteem, and small proportions of variance in internalized antiatheism and outness.

Direct relations. Unique direct relations among variables of interest are depicted in Figure 1. Antiatheist discrimination yielded significant positive unique relations with stigma consciousness and internalized antiatheism. Notably, after controlling for group involvement, the relation of antiatheist discrimination with outness became significant and positive. In partial support of Hypothesis A, antiatheist discrimination and stigma consciousness yielded significant positive unique relations with distress whereas outness yielded a significant negative unique relation with distress. Squared semipartial correlations (sr^2) for these relations indicated that antiatheist discrimination, stigma consciousness, and outness accounted for 3%, 3%, and 2% of unique variance in distress. Contrary to expectation, the unique relation of internalized antiatheism with distress was nonsignificant ($sr^2 = .00$). In further support of Hypothesis A, antiatheist discrimination yielded a significant negative unique relation with self-esteem whereas outness yielded a significant positive unique relation with self-esteem. Antiatheist discrimination and outness accounted for 3% and 6%

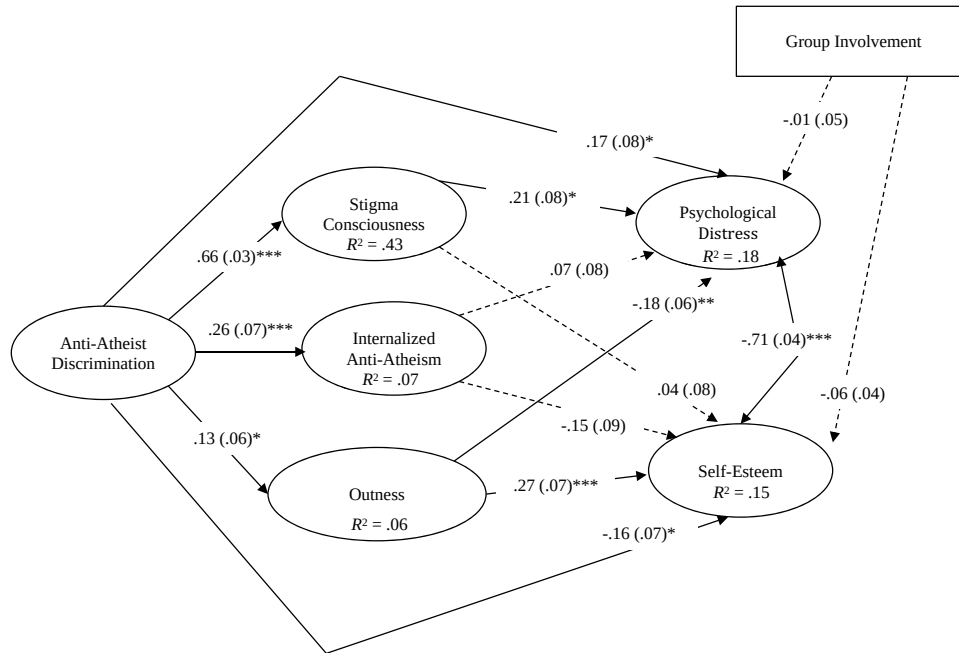


Figure 1. Structural equation model of for the hypothesized model of relations among variables of interest. Values outside of parentheses represent standardized coefficients, and values within parentheses are standard errors. Dashed lines represent nonsignificant relations. The correlation of group involvement with antiatheist discrimination and paths from group involvement to stigma consciousness, internalized antiatheism, and outness were estimated but are omitted for the sake of clarity. * $p < .05$. ** $p < .01$. *** $p < .001$.

of unique variance in self-esteem, but the unique relations of stigma consciousness ($sr^2 = .00$) and internalized antiatheism ($sr^2 = .02$) with self-esteem were nonsignificant. The unique relations of group involvement with distress and self-esteem were both nonsignificant (Hypothesis B).

Indirect relations. The robust standard errors of MLR were used to compute 95% confidence intervals for the indirect relations of antiatheist discrimination with distress through stigma consciousness, internalized antiatheism, and outness. If the 95% CI of an indirect relation does not contain zero, the indirect relation is significant at $p < .05$. Results are presented in Table 2. In partial support of Hypothesis C, there was a significant positive unique

indirect relation of antiatheist discrimination with distress via stigma consciousness; contrary to expectation, the unique indirect relations of antiatheist discrimination with distress via internalized antiatheism and outness were nonsignificant. Furthermore, anti-atheist discrimination did not yield significant unique indirect relations with self-esteem through stigma consciousness, internalized antiatheism, or outness.

Group Involvement as a Moderator

Multigroup invariance testing procedures (Byrne, 2016) were used to test group involvement as a moderator of the unique direct

Table 2
Unique Indirect Relations of Antiatheist Discrimination With Mental Health Outcomes

Mediator	Standardized indirect relation		Unstandardized indirect relation		95% CI of unstandardized indirect relation	
	β	SE	B	SE	Lower bound	Upper bound
Criterion: Psychological distress						
Stigma consciousness	.14	.06	.07	.03	.012	.122*
Internalized antiatheism	.02	.02	.01	.01	-.013	.031
Outness	-.02	.01	-.01	.01	-.022	.001
Criterion: Self-esteem						
Stigma consciousness	.02	.05	.02	.03	-.046	.076
Internalized antiatheism	-.04	.03	-.02	.02	-.058	.011
Outness	.03	.02	.02	.01	-.001	.042

* $p < .05$.

relations of the antiatheist stressors with distress and self-esteem (Hypothesis D). First, measurement models were estimated separately for participants not involved in an atheist community ($n = 370$) and participants involved in an atheist community ($n = 152$). A series of nested models (configural, metric invariance, scalar, and hypothesized structural) were examined. In the final step, the hypothesized structural model was reestimated with and without equality constraints applied to the paths from antiatheist discrimination, stigma consciousness, internalized antiatheism, and outness to distress and self-esteem; no other relations among variables were constrained. Importantly, if constraining these paths to equality across groups resulted in significantly poorer fit, it could be concluded that group involvement significantly moderated one or more of these parameters.

Model fit statistics and model comparisons for the invariance tests are presented in Table 3. Each model examined yielded excellent fit to the data. Because fit statistics for the separate measurement models and the configural model were excellent, it can be concluded that the pattern of factors and factor loadings was similar across groups. Furthermore, inspection of the S-B scaled chi-square difference test and ΔCFI and $\Delta RMSEA$ comparing the metric invariance model with the configural invariance model suggested that there were no substantive differences between the two models. Thus, constraining the magnitude of factor loadings to equivalence across groups in the metric invariance model did not significantly worsen model fit. Similarly, comparisons of the scalar invariance model⁴ to the metric invariance model suggested that constraining manifest variable intercepts to equality across groups in the scalar invariance model did not significantly worsen model fit.

The final comparison pertained directly on the question of whether the relations of antiatheist minority stressors with mental health differed between participants who were not involved in a group and participants who were involved in a group. That is, does group involvement moderate the direct relations of antiatheist discrimination, stigma consciousness, internalized antiatheism, and outness with distress and self-esteem? Comparison of the structural model without constraints and the structural model with constraints suggested that the models did not differ significantly; thus, it was concluded that group involvement did not significantly moderate the relations of the antiatheist stressors with either distress or self-esteem.

Discussion

Atheist individuals constitute an increasingly large segment of the U.S. population, yet their experiences as secular minorities in a predominantly religious landscape have been underexamined within psychological research. As such, the present study was a first step toward redressing some of the gaps in our understanding of minority stress, community factors, and mental health outcomes for atheist people. Although many findings from our study aligned with expectations from prior theory and research, there were also a number of unexpected deviations from our hypotheses—all of which potentially speak to the unique worldviews and positionality of nonbelievers in U.S. culture.

Similarities With and Divergences From Prior Studies

Aligned with findings from prior work with oppressed groups (e.g., Pascoe & Smart Richman, 2009; Thoits, 2010), at the bivariate level, each of the minority stressors was associated with poorer mental health (higher distress, lower self-esteem), with inverse relations for outness. This pattern speaks to the importance of assessing the full array of minority stressors (both distal and proximal) when considering correlates of the mental health for atheist people and supports research to suggest that atheist marginalization may be deleterious to well-being (Abbott & Mollen, 2018; Brewster et al., 2016). In support of prior theory examining the associations of distal stressors with proximal stressors (Hatzenbuehler, 2009) antiatheist discrimination was significantly associated with stigma consciousness and internalized antiatheism at the bivariate level, as well as in the structural equation model (which controlled for group involvement). Although outness was unrelated to discrimination at the bivariate level, it became significantly and positively related in the structural equation model; such a finding is aligned with prior studies that reported a link between experiences of discrimination and disclosure or concealment of invisible identity statuses (e.g., Abbott & Mollen, 2018; Brewster et al., 2013; Smith, 2013). Campaigns to encourage atheists to “come out” may have facilitated and supported the creation of environments where some atheist people may feel compelled to come out regardless of the discrimination they encounter (LeDrew, 2013).

Regarding direct relations of distal and proximal stressors with psychological outcomes in our path models, findings largely paralleled the bivariate relations reported above, with two unexpected differences: (a) stigma consciousness was related directly to distress, but not self-esteem and (b) internalized antiatheism was related directly to neither psychological outcome. Stigma consciousness may be more robustly related to distress than to self-esteem because such expectations of invalidation are a source of frustration or pain but are not perceived to be an accurate reflection of personal worthiness. More concretely, an awareness that some religious people may believe “atheists go to Hell” will not lower your self-esteem if you do not believe in Hell. It should be noted that the model accounted for 43% of the variance in stigma consciousness, which may suggest that discrimination and stigma are tapping similar underlying experiences for atheists. Interestingly, reported mean scores for stigma consciousness were higher than those of discrimination or internalization. Such means are parallel to those reported in prior minority stress work (i.e., Tebbe & Moradi, 2016; Velez, Moradi, & Brewster, 2013), and they may speak to the pernicious ability of stigma to “get under the skin” (Hatzenbuehler, 2009).

⁴ As described, the scalar invariance model constrained the means of all manifest variables to equality across groups. However, in light of the observed significant associations of group involvement with anti-atheist discrimination, outness, distress, and self-esteem (see Table 1), the means of these *latent variables* were allowed to vary in the scalar invariance model (Mplus constrains latent variable means to equality by default). Inspection of latent means in the scalar invariance model indicated that anti-atheist discrimination was significantly lower in the involved group than in the uninvolved group ($\beta = -.15, p = .036$), whereas outness ($\beta = .44, p = .001$) and self-esteem ($\beta = .29, p = .002$) were higher. Distress did not differ significantly across groups, however, ($\beta = -.13, p = .163$).

Table 3
Models for Multigroup Invariance Tests

Model	S-B χ^2	df	CFI	RMSEA [90% CI]	SRMR	Model comparison	Δ S-B χ^2	Δ df	p	Δ CFI	Δ RMSEA
1. No involvement measurement	177.84	89	.97	.052 [.041, .063]	.04	—	—	—	—	—	—
2. Involvement measurement	161.27	89	.96	.073 [.055, .091]	.06	—	—	—	—	—	—
3. Configural	339.13	178	.97	.059 [.049, .068]	.05	—	—	—	—	—	—
4. Metric	350.58	194	.97	.056 [.046, .065]	.05	4 vs. 3	20.84	16	.185	0	-.003
5. Scalar	370.21	206	.97	.055 [.046, .064]	.06	5 vs. 4	19.62	12	.075	0	-.001
6. Hypothesized structural, no constraints	371.92	206	.97	.056 [.046, .065]	.06	—	—	—	—	—	—
7. Hypothesized structural, with constraints	379.14	214	.97	.054 [.045, .063]	.06	7 vs. 6	6.98	8	.539	0	-.002

Note. Because these series of models were nested, they could be formally compared using the S-B scaled chi-square difference test. However, Kline (2016) noted that with samples larger than 300, the chi-square difference test may be too powerful and thus detect significance when differences between models are trivial. Kline suggests that with such large samples, Δ CFI > .01 and Δ RMSEA > .015 can be considered evidence that the models being compared differ substantively. Thus, S-B scaled chi-square difference tests as well as Δ CFI and Δ RMSEA were calculated to holistically evaluate model invariance; S-B = Satorra-Bentler scaled; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean residual.

Although prior qualitative research (Brewster, 2014) has reported that atheist people may hold maladaptive beliefs that mirror patterns of internalized negativity found in other marginalized groups (i.e., praying to stop being a nonbeliever), internalized antiatheism did not yield direct relations to either psychological outcome in our model. Similar to internalized negativity for other groups, its salience may lessen with time (Pachankis et al., 2018). Items such as “I feel it is unfair that I am an atheist” may not be commonly endorsed by people who came out years prior—which could account for relatively low mean scores for this variable.

In our exploratory look at indirect relations, stigma consciousness mediated the positive relation of discrimination to distress. Such a finding aligns with prior empirical and conceptual work regarding the important role of proximal minority stressors in explaining links between discrimination and psychological outcomes (Dyar et al., 2018; Hatzenbuehler, 2009; Puckett et al., 2015; Walsh et al., 2018). Counter to our original hypotheses, stigma consciousness did not mediate the relation of antiatheist discrimination with self-esteem, which is likely attributable to the fact that the unique direct relation of stigma consciousness with self-esteem was nonsignificant. Also against our hypotheses (but unsurprising considering its lack of direct association with either outcome variable), internalized antiatheism did not act as a mediator of distress or self-esteem.

Lastly, outness did not mediate the relation of discrimination with distress or self-esteem. As discussed previously, targeted campaigns to encourage atheist people to come out may have turned disclosure into a political statement wherein people feel pressured to come out, regardless of the reaction they may receive. Alternatively, prior work has provided mixed support for links between outness and psychological wellness, suggesting that context and perceived autonomy of the person making the disclosure is more important than outness itself (Legate, Ryan, & Weinstein, 2012). In this way, outness may function differently as a proximal minority stressor for atheists; indeed, disclosure is not generally essential to navigating daily life for nonbelievers, yet it may be for those with other invisible identity statuses.

Taken together, distinct patterns emerged for the proximal stressors: stigma consciousness appeared to be relatively more salient to distress than self-esteem, outness was important to both self-esteem and distress (though not involved in any mediation), and

internalized antiatheism was relatively less influential in the model. These patterns speak to the necessity of assessing the full array of minority stressors, as they each play a unique role.

Unpacking the Utility of Atheist Group Involvement

Regarding our mental health “promoting” variable, atheist group involvement, latent variable correlational results generally supported our expectations. Specifically, group involvement was related significantly and positively to self-esteem, but with only small negative relations to distress. As such, community connection may more strongly impact feelings of personal worthiness, than psychological symptomatology; prior qualitative work reports that atheist group membership builds a sense of belongingness and solidarity among participants (i.e., Smith, 2017). Conversely, it may be that people with higher self-esteem are inherently more drawn to seek ties with other likeminded atheist individuals; indeed, prior longitudinal research has supported that self-esteem predicts prosociality (Zuffianò et al., 2016).

Rooted in literature that positions group involvement as a protective against minority stress and trauma (e.g., Bockting et al., 2013; DeBlaere et al., 2014; Jasperse et al., 2012; Szymanski & Owens, 2009), we also looked at the buffering impact of this community level-coping strategy. Notably, people involved in atheist groups reported lower discrimination and higher outness. Indeed, organized atheist communities such as Oasis started in the Bible Belt in reaction to oppressive and isolating experiences for nonbelievers are meant to create a safe haven where people can be themselves and out (Anderson, 2016). Generally, the positive role of atheist communities is aligned with prior work on religious communities and faithful individuals (Koenig, 2015; Roth et al., 2016). That said, we did *not* find support for differences in interrelations among our minority stress variables and outcomes with the tests of multigroup invariance. This may suggest that people involved in atheist groups and those who are not experience and process marginalization experiences in similar ways that do not yield different patterns of mental health.

Limitations and Directions for Future Research

Findings from our study must be interpreted in light of several limitations. First of all, our participants were gathered via conve-

nience sampling through networks that cater to nonreligious and nonbelieving communities. As a result, participants who found the study may experience atheism as a more salient part of their identity than individuals who are not connected with these resources; further research on the role of identity salience for atheist people is important.

Demographically, our sample was somewhat homogenous—primarily white (72%) with high levels of formal education (66% had completed college)—however, this composition roughly parallels prior research with atheist samples (Abbott & Mollen, 2018; Brewster et al., 2016; Swan & Heesacker, 2012) and may be representative of atheist people in the United States more broadly (Zuckerman, 2007). Indeed, one notable characteristic of the sample was its representation of sexual minority people (the sample was only 54% *exclusively* heterosexual). Some data suggest that sexual minority people are three times more likely to identify as nonbelievers compared to heterosexual people (Linneman & Clendenen, 2009), but without national level data on the sexual orientations of atheist people and/or the religious beliefs of sexual minorities, it is difficult to know whether this sample is an outlier. Additional work to examine the role of sexual orientation in narratives of religious deconversion and an exploration of minority stress for atheist queer people is warranted.

We would also be remiss to not acknowledge the potential role of measurement variance in our study. Two of our measures had not previously been used with exclusively atheist samples, and their content was modified to be applicable to nonbelievers (i.e., measure of outness, internalized antiatheism). Whereas factor structures and interrelations between variables supported the validity of these modified measures, future scholars should develop scales unique to the experiences of atheist populations. Refinement of theory on identity management, concealment, and disclosure of nonbelief within atheist populations is particularly important considering our counterintuitive results with this variable. Additionally, by utilizing a dichotomous variable to assess involvement in an atheist group, we may have missed important nuances in experience and lost statistical power—for example, is there an “I only go to church on Easter and Christmas” equivalent for atheist group participation?

Finally, the present study utilized cross-sectional data and, as a result, we cannot address causal or temporal topics within the data. Particularly when considering that most atheist people in the United States were not “raised atheist” but have a narrative of leaving a particular religious group, future longitudinal studies that assess how experiences of minority stress evolve and shift over time are crucial. Qualitative research may help to unpack some of these questions, among others.

Implications for Practice and Advocacy

Results from the present study speak to the potentially deleterious impact of oppressive environments that atheist individuals in the United States may face. As mental health professionals, recognizing that our nonreligious clients may feel isolated, stigmatized, and unable to access resources that are traditionally provided by religious groups is a first step in acknowledging their unique experiences of minority stress. Indeed, bringing visibility to previously unseen identity categories enhances group member perceptions of being part of a collective (Guenther & Mulligan, 2013).

Parallel to explorations of religiosity in clinical work, when working with atheist clients, therapists should be curious about how their nonbelief interacts with relational and family dynamics, coping strategies, worldviews and morality, social supports, and existential beliefs. Narratives of deconversion and “coming out” stories may be particularly salient for some atheist clients, but not others, depending on whether they were raised in a highly religious family or cultural group (Brewster, 2014; Sahker, 2016).

Although future research must be conducted to refine our understanding of the utility of atheist group involvement, having knowledge of available group-level resources provided by organizations such as Sunday Assembly is an important skillset for clinicians. Psychologists may also engage in activism such as working to make sure communities have secular celebrants to officiate weddings and lead funeral services, rehab and substance abuse services that are not faith-based, nonreligious bereavement and grief support, food banks and soup kitchens that do not hinge services on spiritual belief, and nursery schools and/or eldercare services that are decoupled from religious institutions.

In clinical contexts, working to ensure that intake paperwork and other forms do not ask only about spiritual belief, but also leave room for discussions of nonbelief, is essential. Providers should also avoid microaggressive questions such as “where do you go to church?” that presuppose religious affiliation. Lastly, it is worth noting that the Internet has been a widely used tool for forming virtual atheist communities. Online communities can be an easily accessible and safe space to discuss atheist issues—particularly for clients who may be geographically isolated from secular communities.

Taken together, a willingness to integrate issues of nonbelief into our broader multicultural frameworks as psychologists is an important step to forestalling future oversight of this growing segment of the U.S. population.

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