

Internalized Homophobia Influences Perceptions of Men's Sexual Orientation from Photos of Their Faces

Konstantin O. Tskhay¹ · Nicholas O. Rule¹

Received: 24 March 2015 / Revised: 28 August 2015 / Accepted: 13 September 2015 / Published online: 2 November 2015
© Springer Science+Business Media New York 2015

Abstract Although researchers have explored the perceiver characteristics that make people accurate at identifying others' sexual orientations, characteristics of the targets remain largely unexplored. In the current study, we examined how individual differences in internalized homophobia among gay men can affect perceptions of their sexual orientation by asking 49 individuals to judge the sexual orientations of 78 gay men from photos of their faces. We found that gay men reporting higher levels of internalized homophobia were less likely to have come out of the closet and were, in turn, less likely to be perceived as gay. Thus, internalized homophobia and the concealment of one's sexual minority status can impact perceptions of sexual orientation.

Keywords Concealment · Internalized homophobia · Social perception · Sexual orientation

Introduction

In the last two decades, research on perceptions of sexual orientation has increased exponentially. The general conclusion of this research is that people across cultures and time reliably identify others' sexual orientation from a variety of cues, including faces, voices, and nonverbal behavior (Tskhay & Rule, 2013a, 2015a). Results show that individuals correctly classify approximately 64.5 % of targets according to their sexual orientation, controlling for perceivers' biases to construe targets as straight. This estimate remains reliable regardless of whether the participants are exposed

to targets' faces, voices, or snippets of their nonverbal behavior. Thus, the ability to judge sexual orientation appears to be robust.

However, some perceivers are more accurate judges of sexual orientation than others. For example, heterosexual women perceive male sexual orientation more accurately when ovulating or when motivated to look for mates (Rule, Rosen, Slepian, & Ambady, 2011), individuals who are more familiar with gay men are more accurate at judging men's sexual orientation (Brambilla, Riva, & Rule, 2013; Rule, Ambady, Adams, & Macrae, 2007), and people who self-report greater levels of homophobia are typically less accurate at discriminating between gay and straight men and women (Rule et al., 2015). Additionally, some related research has demonstrated that gay men's own sexual role preferences and self-reported masculinity can affect their perception of other gay men's sexual role preferences (Tskhay, Re, & Rule, 2014).

While each of the above studies investigated characteristics of individuals that moderate perceivers' accuracy in judging sexual orientation (perceiver effects) (Funder, 1995), individual differences supporting the complementary legibility of targets (target effects) have remained relatively unexplored. Indeed, only a handful of studies have investigated how individual differences in target characteristics, such as demographics and appearance, affect perceptions of sexual orientation. In that work, researchers found that target race and culture had little or no effect on the accuracy of perceiving sexual orientation (Johnson & Ghavami, 2011; Rule, 2011; Rule, Ishii, Ambady, Rosen, & Hallett, 2011; Valentova, Rieger, Havlicek, Linsenmeier, & Bailey, 2011). Additional research, however, has demonstrated that facial symmetry, facial features, expressed emotions, and gender inversion cues facilitate the inference of sexual orientation and gay men's sexual role preferences (e.g., Freeman, Johnson, Ambady, & Rule, 2010; Hughes & Bremme, 2011; Rieger, Linsenmeier, Gygas, Garcia, & Bailey, 2010; Skorska, Geniole, Vrysen, McCormick, & Bogaert, 2015; Tskhay & Rule, 2013b, 2015b; Valentova, Kleisner, Havlicek, & Neustupa, 2014). Despite

✉ Konstantin O. Tskhay
konstantin.tskhay@mail.utoronto.ca

¹ Department of Psychology, University of Toronto, 100 St. George Street, Toronto, ON M5S 3G3, Canada

this evidence, no work to our knowledge has explored how individual differences in stable trait-like dispositions of targets can affect perceptions of sexual orientation. The goal of the current investigation was, therefore, to expand the literature on target effects in perceptions of sexual orientation by examining how one target characteristic that motivates individuals to conceal their sexual orientation might affect how it is perceived—individual differences in targets' internalized homophobia.

Internalized homophobia, or fear of the prejudice, stereotypes, and stigma associated with being a sexual minority, may motivate individuals to reject their sexual minority status and conceal their sexual orientation—thereby limiting its legibility (e.g., Cain, 1991; Franke & Leary, 1991; Herek, 2004). Moreover, internalized homophobia may also provoke individuals to view other sexual minorities negatively, resulting in rejection of the sexual minority community at large (e.g., Herek, Cogan, Gillis, & Glunt, 1997). Previous research suggests that being a sexual minority can strain relationships, increase the experience of discrimination, and exacerbate the likelihood of physical abuse, thereby providing ample justification for sexual minorities to deny their sexual orientation (Herek, 2004; Herek, Cogan, & Gillis, 2002; Katz-Wise & Hyde, 2012). As even false perceptions that one is a sexual minority may affect one's interactions with others (see Hebl, Foster, Mannix, & Dovidio, 2002), sexual minorities with greater levels of internalized homophobia might strive to emulate the appearance and behavior of heterosexuals and suppress their same-sex feelings to avoid suspicions that they are gay.

Given the negative consequences that may arise from being perceived as a member of a stigmatized group, successful concealment of one's sexual minority status could be viewed as adaptive (Miller & Major, 2000). Yet, despite the advantages inherent to avoiding prejudice, studies examining disclosure of sexual orientation suggest that efforts to conceal one's sexual orientation precipitate a number of negative outcomes. People who conceal their sexual orientation experience greater psychological distress (e.g., Frost & Meyer, 2009; Morris, Waldo, & Rothblum, 2001; Schrimshaw, Siegel, Downing, & Parsons, 2013), diminished cognitive ability (e.g., Critcher & Ferguson, 2014; see also Lane & Wegner, 1995), more frequent health issues (e.g., Cole, Kemeny, Taylor, & Visscher, 1996a; Cole, Kemeny, Taylor, Visscher, & Fahey, 1996b; McGarrity & Huebner, 2014; see also Frost, Parsons, & Nanin, 2007), lower relationship quality (e.g., Frost & Meyer, 2009), and more negative attitudes toward work (Griffith & Hebl, 2002; King, Reilly, & Hebl, 2008; Legate, Ryan, & Weinstein, 2012). Furthermore, many researchers consider coming out to be a sign of healthy sexual development because this milestone signifies that one has come to terms with his or her same-sex attractions and has overcome the self-stigmatization inherent to internalized homophobia (e.g., Cain, 1991).

Coming out may be a life-long process that largely depends on situational factors, however. For example, individuals may be reluctant to come out in an environment that is hostile toward

sexual minorities (D'Augelli & Grossman, 2001; D'Augelli, Hershberger, & Pilkington, 1998; Griffith & Hebl, 2002; King et al., 2008; Legate et al., 2012). Concealing one's sexual orientation may thus protect against a variety of negative outcomes, and remaining in the closet might be considered a behavioral manifestation of the attitudes (i.e., internalized homophobia) that motivate one's desire to avoid such challenging experiences.

Although some individuals might work to conceal their sexual orientation, studies in the last several decades have demonstrated that people can reliably perceive others' sexual orientation from minimal cues (see Tskhay & Rule, 2013a, for review). For instance, sexual orientation can be perceived with accuracy that exceeds chance guessing from body motion (Ambady, Hallahan, & Conner, 1999; Johnson, Gill, Reichman, & Tassinary, 2007; Rieger et al., 2010), vocal cues (e.g., Gaudio, 1994; Linville, 1998), and even the face and its features (e.g., Rule, Ambady, Adams, & Macrae, 2008; Tskhay, Feriozzo, & Rule, 2013). Furthermore, sexual orientation can be perceived rapidly and automatically (Rule & Ambady, 2008; Rule, Ambady, & Hallett, 2009; Rule, Macrae, & Ambady, 2009), often scaffolded on simple assessments of a target's sex typicality (e.g., feminine men are perceived as gay and masculine men as straight) (Freeman et al., 2010; Rieger et al., 2010).

Most relevant to the present investigation, Sylva, Rieger, Linsenmeier, and Bailey (2010) examined whether gay and lesbian individuals might be able to pass as straight. Sylva et al. asked gay and straight men and women to conceal their sexual orientation in a casual interaction and in a professional interaction across two studies. In the casual interaction, they videotaped the targets describing a winter in the Midwest while behaving in a sex-typical manner, a sex-atypical manner, and as they naturally would (control). In the professional interaction, they videotaped the targets as if they were interviewing for their "dream job" by either someone who was accepting of their sexual orientation or by a homophobic interviewer; thus, they were instructed to conceal their sexual orientation or "act straight" with the latter interviewer. Participants then rated the targets' sexual orientation from the videos. Despite some significant differences between the conditions, participants consistently distinguished the gay and lesbian targets from the straight targets regardless of how they attempted to manipulate their behavior. These findings suggest that, although expressions of sexual orientation may be malleable, targets may not be able to successfully conceal their sexual orientation.

Although people may not succeed in concealing their sexual orientation on command, it remains unclear whether individuals who chronically conceal their sexual orientation may be less legible relative to those who express their sexual orientation more openly. Given previous research suggesting that internalized homophobia may relate to whether people conceal their sexual orientation (Frost & Meyer, 2009), we predicted that gay men who report greater levels of internalized homophobia would report less disclosure of their sexual orientation, which in turn would relate to

others' perceptions of them. In other words, we predicted that internalized homophobia would affect perceptions of gay men's sexual orientations indirectly via the degree to which they have disclosed their sexual orientation to their family, friends, and colleagues.

Method

Participants

Targets

A total of 78 gay men participated in the study as targets (36 White, 17 Asian, 7 Black, 18 other race; age range of 18–66 years). We recruited gay men to participate as targets from the introductory psychology subject pool and through campus and online advertisements posted at different campus locations (e.g., library) or on craigslist.org and other online social networking websites (facebook.com, reddit.com). Although we aimed to recruit a total of 90 targets, one of the participants came into the lab twice and so we eliminated his data from the second session. Furthermore, 10 men declined to be photographed upon arrival in the laboratory. One additional participant was mistakenly eliminated from the study because he had no variance in his responses on an unrelated task.

We photographed all targets looking directly into the camera while posing a neutral expression under conditions standardized for lighting and distance from the camera. The targets then proceeded to complete a number of tasks for unrelated studies among which we assessed their levels of internalized homophobia and outness (see Measures section below). We cropped the photographs to the limits of the head (top of the hair, bottom of the chin, and outside of ears), standardized them to be identical in height, and digitally removed any facial piercings.

Raters

A total of 49 individuals (23 female; 44 White, 4 Asian, 1 Black; age range: 19–65 years; 44 straight, 4 bisexual, 1 gay), recruited from Amazon's Mechanical Turk, participated as raters. Although 54 participants began the study, five did not complete the study—their data were not considered in the analysis.

Measures

Internalized Homophobia (IHP; Martin & Dean, 1992)

The IHP consists of nine items that assess the degree to which sexual minorities reject their sexual orientation and their same-sex desires (Frost & Meyer, 2009; Meyer & Dean, 1998).

Participants answer items such as “I wish I weren't gay” using a 5-point scale (1 = *Strongly Disagree*, 5 = *Strongly Agree*). Higher scores on this scale represent higher levels of internalized homophobia. The scale demonstrated an acceptable level of internal consistency reliability in the present sample: Cronbach's $\alpha = .83$.

Outness (Meyer, Rossano, Ellis, & Bradford, 2002)

This measure assesses the degree to which sexual minorities have disclosed their sexual orientation to other people in their lives. The scale consists of four items asking participants to indicate “How out of the closet are you to your family [straight friends, LGBTQ friends, coworkers]?” using a 4-point scale (1 = *Out to None*, 4 = *Out to All*); thus, greater scores represent a greater degree of disclosure of sexual orientation to other people. The scale demonstrated an acceptable level of internal consistency reliability in the present sample: Cronbach's $\alpha = .81$.

Procedure

Raters evaluated each of the 78 targets on “How gay?” they appeared using a 7-point scale (1 = *Straight*, 7 = *Gay*) in a random order. Each participant saw each target exactly once. The information about targets' sexual orientations was never disclosed to the participants.

Analytic Strategy

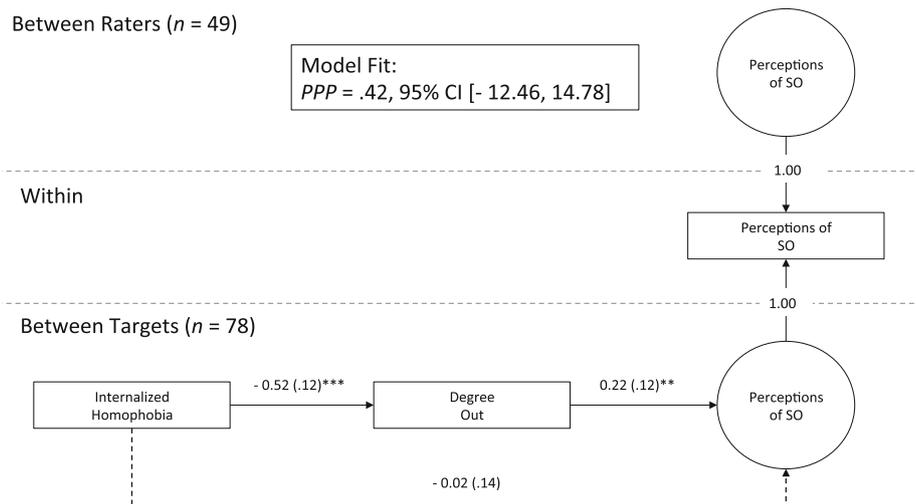
We hypothesized that targets' internalized homophobia would negatively relate to their degree of outness, which in turn would affect the perceivers' ratings of targets' sexual orientation (see Table 1 for descriptive statistics and correlations). We tested this mediation hypothesis using cross-classified structural equation modeling to account for the unique variance in judgments of sexual orientation due to each target, each rater, and their relationship (e.g., the Social Relations Model; Kenny & La Voie, 1984). This analysis is, therefore, an extension of multilevel structural equation modeling techniques used for assessing statistical mediation (Preacher, 2011; Preacher, Zhang, &

Table 1 Means, standard deviations, and correlations between homophobia, outness, and ratings of perceived sexual orientation for each target

| Variable | <i>M</i> (<i>SD</i>) | 2 | 3 |
|---------------------------------|------------------------|---------|------|
| 1. Homophobia | 2.07 (0.70) | –.45*** | –.14 |
| 2. Outness | 3.15 (0.80) | – | .26* |
| 3. Perceived sexual orientation | 3.21 (0.70) | – | – |

* $p < .05$; *** $p < .001$. $df = 76$. Homophobia assessed along a 5-point scale (i.e., from 1–5), Outness along a 4-point scale (i.e., 1–4), and perceived sexual orientation along a 7-point scale (i.e., 1–7)

Fig. 1 Graphical representation of the multilevel structural equation model examining the hypothesized mediation of the relationship between an individual's internalized homophobia and others' perceptions of his sexual orientation (SO) via the degree to which he is out to others. All estimates are unstandardized and accompanied by standard errors. $**p < .01$; $***p < .001$



Zyphur, 2011) to a cross-classified design that is commonly used in research involving multiple targets and raters (see Judd, Westfall, & Kenny, 2012).

Specifically, we partitioned the variance in the judgments of sexual orientation as a function of perceiver effects (assuming that each perceiver should rate all targets similarly) and target effects (assuming that each target should be rated similarly by all perceivers). To achieve this, we specified latent variables representing the perceptions of sexual orientation for both the perceivers and targets (both Level 2 variables). Next, because both internalized homophobia and outness are attributes inherent to the targets, we specified a mediation model only on the target level. We fit the model using a Bayesian estimator in Mplus (Muthén & Muthén, 2011) and assessed the model fit using the *Posterior Predictive P value* (PPP) and the 95 % confidence interval (CI) around the difference between the observed and replicated χ^2 statistics, whereby a $PPP > .05$ and a 95 % CI surrounding 0 are considered indicators of good model fit (Muthén & Asparouhov, 2012). We report unstandardized regression coefficients, accompanied by their standard errors and 95 % confidence intervals. Confidence intervals not including zero should be interpreted as statistically significant.

Results

Overall, the model fit was excellent: $PPP = .42$, 95 % CI [-12.46, 14.78]. Gay men who reported greater levels of internalized homophobia were less likely to be out to their families, friends, and colleagues, $b = -0.52$, $SE = 0.12$, 95 % CI [-0.76, -0.28], and subsequently less likely to be perceived as gay, $b = 0.22$, $SE = .12$, 95 % CI [0.03, 0.53]. Importantly, the indirect effect from internalized homophobia to perceptions of sexual orientation via degree of outness was statistically reliable: $b = -0.11$, $SE = 0.07$, 95 % CI [-0.30, -0.02]; see Fig. 1.

Furthermore, we wanted to contextualize the magnitude of the concealment effects on perceptions of sexual orientation. To achieve this, we compared the faces of closeted gay men in our sample to faces of straight men from a previously validated sample (Rule & Ambady, 2008). Specifically, we used data from an independent group of 59 participants (39 female; 44 White, 6 Hispanic, 4 Black, 2 Asian, 3 other race; age range: 18–69 years) recruited via Amazon's Mechanical Turk to rate 44 faces of straight men using the same sexual orientation scale as above.¹ The faces of the participants who were not out to their friends, families, and colleagues in the current sample were rated as more likely to be straight ($b_{\text{intercept}} = 2.72$, $SE = 0.22$)² than the faces from the norming sample of straight men: $M = 3.88$, $SD = .90$.

Discussion

We found that gay men who reported greater levels of internalized homophobia were less likely to be out to their families, friends, and colleagues. In turn, men who reported a greater degree of concealment were perceived as more likely to be straight by unacquainted observers viewing photos of their faces. These data, therefore, suggest that internalized homophobia affects the legibility of men's sexual orientation. Thus, the current work adds to the expanding literature on perceptions of sexual orientation by demonstrating that individual differences in targets' internalized homophobia and concealment affect perceptions of their sexual orientation from photos of their faces.

Although closeted gay men may have lower levels of well-being (Cole et al., 1996a; Frost & Meyer, 2009; Schrimshaw

¹ We did not collect information about the sexual orientation of the raters judging the straight targets.

² We centered the Outness scale at 1 (*Out to None*).

et al., 2013), these findings suggest that they may be able to avoid many of the negative outcomes associated with being openly gay because they are relatively more successful in concealing their sexual orientation. Specifically, some gay men may be able to pass as straight and thus avoid discrimination and prejudice (Herek, 2004; Herek et al., 2002; Katz-Wise & Hyde, 2012). Furthermore, the present findings also suggest that the expression of sexual orientation might in some cases be malleable, though additional research would need to test this possibility (see also Sylva et al., 2010).

In the current work, we focused exclusively on how internalized homophobia may affect perceptions of sexual orientation from faces. Although it may appear that there may be some basic physiognomic differences in gay men who experience greater versus lower levels of internalized homophobia, the current investigation did not directly test this possibility as a mechanism. Instead, the results appear to be more consistent with the social constructivist view of sexual orientation (Kite & Deaux, 1987; Tskhay & Rule, 2015a). Specifically, individuals who expressed higher levels of internalized homophobia were less likely to be out to their friends and family. Furthermore, this latter variable mediated the relationship between internalized homophobia and perceptions of sexual orientation, suggesting that gay men who behaviorally concealed their sexual orientation were more likely to be perceived as straight. Following this logic, individuals exhibiting higher levels of internalized homophobia may have adhered to more heteronormative standards of grooming (e.g., hairstyle, dress; Fridell, Zucker, Bradley, & Maing, 1996; Rule et al., 2008; Zucker, Wild, Bradley, & Lowry, 1993), or expressed either fewer or more negative emotions (Tskhay & Rule, 2015b) to communicate greater masculinity and thus portray a heterosexual orientation to the outside world (e.g., McDermid, Zucker, Bradley, & Maing, 1998; Rieger et al., 2010).

However, another account of the current findings is also possible. For example, it could be that gay men with more feminine appearances were “forced” to come out, as their behaviors, appearances, and mannerisms would reliably and consistently communicate their sexual orientation. Furthermore, these gay men may have accepted their sexual orientation earlier in life and therefore may experience lower levels of internalized homophobia. On the other hand, gay men with more stereotypically masculine appearances and behaviors may not need to come out, as their appearance does not immediately communicate their sexual identity thereby allowing them to pass as straight. Furthermore, the discrepancy between the positive outcomes afforded from being perceived heterosexual and the negative stereotypes associated with gay men may clash in these men’s minds, resulting in increased levels of internalized homophobia. Although these mechanisms can possibly explain the link between internalized homophobia and perceptions of sexual orientation via the degree of outness, future research is necessary to precisely identify the mechanisms underlying the present findings and to replicate these relationships in other modalities of presentation (e.g., dynamic nonverbal behavior).

Although we focused on perceptions of sexual orientation from faces here, previous work has demonstrated that sexual orientation is legible from other modalities as well (e.g., Johnson et al., 2007; Rieger et al., 2010). Thus, gay men who conceal their sexual orientation may be perceived differently from their body motion, mannerisms, and voices than from their faces, particularly as these are all channels of information in which “nonverbal leakage” is often more likely to occur (e.g., Zuckerman, DePaulo, & Rosenthal, 1981). Indeed, Sylva et al. (2010) found that perceivers could accurately identify men’s and women’s sexual orientation from dynamic information when the targets were explicitly asked to conceal their sexual orientation, suggesting that they could not fully control the expression of their sexual orientation via dynamic cues. Although we do not know the extent to which Sylva et al.’s targets were open about their sexual orientation, these judgments were based on more than just still photos of faces. Thus, it is possible that individuals may be better able to modulate their expression of sexual orientation from their faces than from their bodies and other cues (see Tskhay & Rule, 2013a; see also Ekman & Friesen, 1969), and that the sexual orientation of even closeted gay men may be legible from other cues. Moreover, here we did not examine the malleability of a given individual’s concealment as Sylva et al. did, nor did we assess the accuracy of perceivers’ impressions (as we focused only on gay targets). Extending the present work in these ways may therefore constitute important future directions for reconciling how individual differences in the motivation to conceal one’s sexual orientation can affect its perception from minimal cues. Moreover, it may also be important to extend this investigation to female targets, who have been relatively less studied in the literature on the perception of sexual orientation, despite generally facilitating greater accuracy than male targets (e.g., Lyons, Lynch, Brewer, & Bruno, 2014; Tabak & Zayas, 2012). Although we anticipate that internalized homophobia would still affect the degree of outness for female targets and subsequent perceptions of their sexual orientation, future research should test this question empirically.

Furthermore, previous research has suggested that the extent to which one conceals or expresses his or her sexual orientation may vary in different contexts (Griffith & Hebl, 2002), examining whether perceptions of sexual orientation differ according to context may therefore be informative. It is also unclear what specific cues varied as a function of gay men’s openness about their sexual orientation in the present research. For example, closeted men may try to appear more masculine or to act in ways that are consistent with traditional gender roles to conceal their sexual orientation (see also Rule & Ambady, 2008). Future work may wish to explore such possibilities to better understand the legibility of sexual orientation from facial cues.

One final limitation is that all of our targets were to some extent out about their sexual orientation, as they were all individuals who had responded to a request for gay men to participate in a psychology study. As such, the current sample of targets may

be biased by self-selection. Although we can assume that none of the targets in the current sample were highly motivated to shroud their sexual orientation, our data demonstrate a relatively wide range of outness. Therefore, we anticipate that the effects may be stronger if we were able to sample gay men who were not out to their friends and family. Future work may wish to test for similar relationships among individuals who guard their sexual orientation even more closely, or perhaps among individuals who are not out at all.

These limitations notwithstanding, the current work provides evidence for systematic variability in the expression of sexual orientation among gay men. Gay men with higher levels of internalized homophobia expressed greater effort to keep their sexual orientation a secret. In turn, their efforts appeared to be somewhat successful: gay men who indicated less openness about their sexual orientation were judged as less likely to be gay in photos of their faces. Thus, we identified one characteristic of targets that may be relevant to perceptions of sexual orientation and that may provide fodder for future investigations wishing to further understand target-level variability in judgments of sexual orientation.

Acknowledgments This work was supported in part by a grant from the Social Sciences and Humanities Research Council of Canada to NOR. The authors would like to express their gratitude to Simone Valade, Seth Watt, and Jerri Clout for their help with data collection.

References

- Ambady, N., Hallahan, M., & Conner, B. (1999). Accuracy of judgments of sexual orientation from thin slices of behavior. *Journal of Personality and Social Psychology*, *77*, 538–547.
- Brambilla, M., Riva, P., & Rule, N. O. (2013). Familiarity increases the accuracy of categorizing male sexual orientation. *Personality and Individual Differences*, *55*, 193–195.
- Cain, R. (1991). Stigma management and gay identity development. *Social Work*, *36*, 67–73.
- Cole, S. W., Kemeny, M. E., Taylor, S. E., & Visscher, B. R. (1996a). Elevated physical health risk among gay men who conceal their homosexual identity. *Health Psychology*, *15*, 243–251.
- Cole, S. W., Kemeny, M. E., Taylor, S. E., Visscher, B. R., & Fahey, J. L. (1996b). Accelerated course of human immunodeficiency virus infection in gay men who conceal their homosexual identity. *Psychosomatic Medicine*, *58*, 219–231.
- Critcher, C. R., & Ferguson, M. J. (2014). The cost of keeping it hidden: Decomposing concealment reveals what makes it depleting. *Journal of Experimental Psychology: General*, *143*, 721–735.
- D’Augelli, A. R., & Grossman, A. H. (2001). Disclosure of sexual orientation, victimization, and mental health among lesbian, gay, and bisexual older adults. *Journal of Interpersonal Violence*, *16*, 1008–1027.
- D’Augelli, A. R., Hershberger, S. L., & Pilkington, N. W. (1998). Lesbian, gay, and bisexual youth and their families: Disclosure of sexual orientation and its consequences. *American Journal of Orthopsychiatry*, *68*, 361–371.
- Ekman, P., & Friesen, W. V. (1969). Nonverbal leakage and clues to deception. *Psychiatry*, *32*, 88–106.
- Franke, R., & Leary, M. R. (1991). Disclosure of sexual orientation by lesbians and gay men: A comparison of private and public processes. *Journal of Social and Clinical Psychology*, *10*, 262–269.
- Freeman, J. B., Johnson, K. L., Ambady, N., & x, N. O. (2010). Sexual orientation perception involves gendered facial cues. *Personality and Social Psychology Bulletin*, *36*, 1318–1331.
- Fridell, S. R., Zucker, K. J., Bradley, S. J., & Maing, D. M. (1996). Physical attractiveness of girls with gender identity disorder. *Archives of Sexual Behavior*, *25*, 17–31.
- Frost, D. M., & Meyer, I. H. (2009). Internalized homophobia and relationship quality among lesbians, gay men, and bisexuals. *Journal of Counseling Psychology*, *56*, 97–109.
- Frost, D. M., Parsons, J. T., & Nanin, J. E. (2007). Stigma, concealment and symptoms of depression as explanations for sexually transmitted infections among gay men. *Journal of Health Psychology*, *12*, 636–640.
- Funder, D. C. (1995). On the accuracy of personality judgment: A realistic approach. *Psychological Review*, *102*, 652–670.
- Gaudio, R. P. (1994). Sounding gay: Pitch properties in the speech of gay and straight men. *American Speech*, *69*, 30–57.
- Griffith, K. H., & Hebl, M. R. (2002). The disclosure dilemma for gay men and lesbians: “Coming out” at work. *Journal of Applied Psychology*, *87*, 1191–1199.
- Hebl, M. R., Foster, J. B., Mannix, L. M., & Dovidio, J. F. (2002). Formal and interpersonal discrimination: A field study of bias toward homosexual applicants. *Personality and Social Psychology Bulletin*, *28*, 815–825.
- Herek, G. M. (2004). Beyond “homophobia”: Thinking about sexual stigma and prejudice in the twenty-first century. *Sexuality Research and Social Policy*, *1*, 6–24.
- Herek, G. M., Cogan, J. C., & Gillis, J. R. (2002). Victim experiences in hate crimes based on sexual orientation. *Journal of Social Issues*, *58*, 319–339.
- Herek, G. M., Cogan, J. C., Gillis, J. R., & Glunt, E. K. (1997). Correlates of internalized homophobia in a community sample of lesbians and gay men. *Journal of the Gay and Lesbian Medical Association*, *2*, 17–26.
- Hughes, S. M., & Bremme, R. (2011). The effects of facial symmetry and sexually-dimorphic facial proportions on assessments of sexual orientation. *Journal of Social, Evolutionary, and Cultural Psychology*, *5*, 214–230.
- Johnson, K. L., & Ghavami, N. (2011). At the crossroads of conspicuous and concealable: What race categories communicate about sexual orientation. *PLoS ONE*, *6*, e18025. doi:10.1371/journal.pone.0018025.
- Johnson, K. L., Gill, S., Reichman, V., & Tassinary, L. G. (2007). Swagger, sway, and sexuality: Judging sexual orientation from body motion and morphology. *Journal of Personality and Social Psychology*, *93*, 321–334.
- Judd, C. M., Westfall, J., & Kenny, D. A. (2012). Treating stimuli as a random factor in social psychology: A new and comprehensive solution to a pervasive but largely ignored problem. *Journal of Personality and Social Psychology*, *103*, 54–69.
- Katz-Wise, S. L., & Hyde, J. S. (2012). Victimization experiences of lesbian, gay, and bisexual individuals: A meta-analysis. *Journal of Sex Research*, *49*, 142–167.
- Kenny, D. A., & La Voie, L. (1984). The social relations model. *Advances in Experimental Social Psychology*, *18*, 142–182.
- King, E. B., Reilly, C., & Hebl, M. (2008). The best of times, the worst of times: Exploring dual perspectives of “coming out” in the workplace. *Group and Organization Management*, *33*, 566–601.
- Kite, M. E., & Deaux, K. (1987). Gender belief systems: Homosexuality and the implicit inversion theory. *Psychology of Women Quarterly*, *11*, 83–96.
- Lane, J. D., & Wegner, D. M. (1995). The cognitive consequences of secrecy. *Journal of Personality and Social Psychology*, *69*, 237–253.
- Legate, N., Ryan, R. M., & Weinstein, N. (2012). Is coming out always a “good thing”? Exploring the relations of autonomy support, outness, and wellness for lesbian, gay, and bisexual individuals. *Social Psychological and Personality Science*, *3*, 145–152.

- Linville, S. E. (1998). Acoustic correlates of perceived versus actual sexual orientation in men's speech. *Folia Phoniatrica et Logopaedica*, *50*, 35–48.
- Lyons, M., Lynch, A., Brewer, G., & Bruno, D. (2014). Detection of sexual orientation ("gaydar") by homosexual and heterosexual women. *Archives of Sexual Behavior*, *43*, 345–352.
- Martin, J. L., & Dean, L. (1992). *Summary of measures: Mental health effects of AIDS on at-risk homosexual men*. Unpublished manuscript, Columbia University, Mailman School of Public Health.
- McDermid, S. A., Zucker, K. J., Bradley, S. J., & Maing, D. M. (1998). Effects of physical appearance on masculine trait ratings of boys and girls with gender identity disorder. *Archives of Sexual Behavior*, *27*, 253–267.
- McGarrity, L. A., & Huebner, D. M. (2014). Is being out about sexual orientation uniformly healthy? The moderating role of socioeconomic status in a prospective study of gay and bisexual men. *Annals of Behavioral Medicine*, *47*, 28–38.
- Meyer, I. H., & Dean, L. (1998). Internalized homophobia, intimacy, and sexual behavior among gay and bisexual men. In G. M. Herek (Ed.), *Stigma and sexual orientation: Understanding prejudice against lesbians, gay men, and bisexuals* (pp. 160–186). Thousand Oaks, CA: Sage.
- Meyer, I. H., Rossano, L., Ellis, J. M., & Bradford, J. (2002). A brief telephone interview to identify lesbian and bisexual women in random digit dialing sampling. *Journal of Sex Research*, *39*, 139–144.
- Miller, C., & Major, B. (2000). Coping with stigma and prejudice. In T. F. Heatherton, R. E. Kleck, M. R. Hebl, & J. G. Hull (Eds.), *The social psychology of stigma* (pp. 153–183). New York: Guilford.
- Morris, J. F., Waldo, C. R., & Rothblum, E. D. (2001). A model of predictors and outcomes of outness among lesbian and bisexual women. *American Journal of Orthopsychiatry*, *71*, 61–71.
- Muthén, B., & Asparouhov, T. (2012). Bayesian structural equation modeling: A more flexible representation of substantive theory. *Psychological Methods*, *17*, 313–335.
- Muthén, L. K., & Muthén, B. O. (2011). *Mplus user's guide* (6th ed.). Los Angeles, CA: Muthén & Muthén.
- Preacher, K. J. (2011). Multilevel SEM strategies for evaluating mediation in three-level data. *Multivariate Behavioral Research*, *46*, 691–731.
- Preacher, K. J., Zhang, Z., & Zyphur, M. J. (2011). Alternative methods for assessing mediation in multilevel data: The advantages of multilevel SEM. *Structural Equation Modeling*, *18*, 161–182.
- Rieger, G., Linsenmeier, J. A. W., Gygax, L., Garcia, S., & Bailey, J. M. (2010). Dissecting "gaydar": Accuracy and the role of masculinity-femininity. *Archives of Sexual Behavior*, *39*, 124–140.
- Rule, N. O. (2011). The influence of target and perceiver race in the categorization of male sexual orientation. *Perception*, *40*, 830–839.
- Rule, N. O., & Ambady, N. (2008). Brief exposures: Male sexual orientation is accurately perceived at 50-ms. *Journal of Experimental Social Psychology*, *44*, 1100–1105.
- Rule, N. O., Ambady, N., Adams, R. B. Jr., & Macrae, C. N. (2007). Us and them: Memory advantages in perceptually ambiguous groups. *Psychonomic Bulletin and Review*, *14*, 687–692.
- Rule, N. O., Ambady, N., Adams, R. B., & Macrae, C. N. (2008). Accuracy and awareness in the perception and categorization of male sexual orientation. *Journal of Personality and Social Psychology*, *95*, 1019–1028.
- Rule, N. O., Ambady, N., & Hallett, K. C. (2009a). Female sexual orientation is perceived accurately, rapidly, and automatically from the face and its features. *Journal of Experimental Social Psychology*, *45*, 1245–1251.
- Rule, N. O., Ishii, K., Ambady, N., Rosen, K. S., & Hallett, K. C. (2011a). Found in translation: Cross-cultural consensus in the accurate categorization of male sexual orientation. *Personality and Social Psychology Bulletin*, *37*, 1449–1507.
- Rule, N. O., Macrae, C. N., & Ambady, N. (2009b). Ambiguous group membership is extracted automatically from faces. *Psychological Science*, *20*, 441–443.
- Rule, N. O., Rosen, K. S., Slepian, M. L., & Ambady, N. (2011b). Mating interest improves women's accuracy in judging male sexual orientation. *Psychological Science*, *22*, 881–886.
- Rule, N. O., Tskhay, K. O., Brambilla, M., Riva, P., Andrzejewski, S. A., & Krendl, A. C. (2015). The relationship between anti-gay prejudice and the categorization of sexual orientation. *Personality and Individual Differences*, *77*, 74–80.
- Schrimshaw, E. W., Siegel, K., Downing, M. J. Jr., & Parsons, J. T. (2013). Disclosure and concealment of sexual orientation and the mental health of non-gay-identified, behaviorally bisexual men. *Journal of Consulting and Clinical Psychology*, *81*, 141–153.
- Skorska, M. N., Geniole, S. N., Vrysen, B. M., McCormick, C. M., & Bogaert, A. F. (2015). Facial structure predicts sexual orientation in both men and women. *Archives of Sexual Behavior*, *44*, 1377–1394.
- Sylvia, D., Rieger, G., Linsenmeier, J. A., & Bailey, J. M. (2010). Concealment of sexual orientation. *Archives of Sexual Behavior*, *39*, 141–152.
- Tabak, J. A., & Zayas, V. (2012). The roles of featural and configural face processing in snap judgments of sexual orientation. *PLoS ONE*, *7*, e36671. doi:10.1371/journal.pone.0036671.
- Tskhay, K. O., Feriozzo, M. M., & Rule, N. O. (2013). Facial features influence the categorization of female sexual orientation. *Perception*, *42*, 1090–1094.
- Tskhay, K. O., Re, D. E., & Rule, N. O. (2014). Individual differences in perceptions of gay men's sexual role preferences from facial cues. *Archives of Sexual Behavior*, *43*, 1615–1620.
- Tskhay, K. O., & Rule, N. O. (2013a). Accuracy in categorizing perceptually ambiguous groups: A review and meta-analysis. *Personality and Social Psychology Review*, *17*, 72–86.
- Tskhay, K. O., & Rule, N. O. (2013b). Accurate identification of a preference for insertive versus receptive intercourse from static facial cues of gay men. *Archives of Sexual Behavior*, *42*, 1217–1222.
- Tskhay, K. O., & Rule, N. O. (2015a). Sexual orientation across culture and time. In S. Safdar & N. Kosakowska-Berzecka (Eds.), *The psychology of gender and culture* (pp. 55–73). New York: Springer.
- Tskhay, K. O., & Rule, N. O. (2015b). Emotions facilitate the communication of ambiguous group memberships. *Emotion*. doi:10.1037/emo0000077.
- Valentova, J. V., Kleisner, K., Havlíček, J., & Neustupa, J. (2014). Shape differences between the faces of homosexual and heterosexual men. *Archives of Sexual Behavior*, *43*, 353–361.
- Valentova, J., Rieger, G., Havlicek, J., Linsenmeier, J. A., & Bailey, J. M. (2011). Judgments of sexual orientation and masculinity-femininity based on thin slices of behavior: A cross-cultural comparison. *Archives of Sexual Behavior*, *40*, 1145–1152.
- Zucker, K. J., Wild, J., Bradley, S. J., & Lowry, C. B. (1993). Physical attractiveness of boys with gender identity disorder. *Archives of Sexual Behavior*, *22*, 23–36.
- Zuckerman, M., DePaulo, B. M., & Rosenthal, R. (1981). Verbal and nonverbal communication of deception. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 14, pp. 2–60). San Diego, CA: Academic Press.