

Chapter 1

Do Implicit Attitudes and Beliefs Change over the Long-Term?

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SUMMARY

Social scientists have long understood that *explicit* social attitudes and beliefs—attitudes and beliefs measured on surveys and self-reports—can change over time. Indeed, remarkable change has occurred in the past 50 years in Americans' explicit beliefs about the rights, capacities, and qualities of many social groups, such as groups defined by race, sexual orientation, or gender.

It is less clear if *implicit* social cognition (ISC) is capable of such long-term change. ISC refers to the more automatic and less controllable attitudes and beliefs that one holds about different social groups. Being more automatic and less controllable, ISC has been described as relatively stable and unchanging.

If this is true and ISC cannot change, then workplaces and communities may continue to perpetuate biases and discrimination even if what they explicitly say or do seems to reflect equity.

In this essay we report analyses performed on a unique dataset that reveal the first evidence that ISC can, in fact, change over the long-term (10 years). Importantly, we also show that ISC does not always change, and sometimes even changes in harmful directions. We describe evidence that shows both *positive* and *negative* trends, where *positive trends* refer to change in the direction of neutrality (zero bias), and *negative trends* refer to no change or reverse change, away from neutrality.

KEY FINDINGS

Positive trends

Long-term change in some ISC is widespread

- The fastest change over time is observed in implicit sexual orientation attitudes (Straight-good/Gay-bad), which have changed towards neutrality by 33 percent over the past decade. This is particularly noteworthy as anti-gay bias was initially among the strongest and is now among the weakest biases.
- Implicit race (White-good/Black-bad) and skin-tone attitudes (Light skin-good/Dark skin-bad) have changed towards neutrality by 17 and 15 percent, respectively.

Negative trends

Long-term change in some ISC is limited and slow

- No change is observed in implicit age attitudes (Young-good/Old-bad) or disability attitudes (Able-bodied-good/Disabled-bad).
- Implicit body-weight attitudes (Thin-good/Fat-bad) have *increased* in bias, away from neutrality over the past decade by as much as 40 percent.

- Implicit beliefs about gender roles (Women-home/Men-career and Women-arts/Men-science) have also become more neutral by 13 and 17 percent, respectively.
- Nearly all groups of people are changing their ISC in similar ways, regardless of gender, race, education, religion, politics, age, and geography.

There is substantial evidence that attitudes and beliefs can change over time. For example, in 1937 only 33 percent of Americans said they would vote for their party's nominee if she were a woman; in 2015, 92 percent said they would.¹ In 1958, only 4 percent of Americans approved of interracial (black-white) marriages; today 87 percent of Americans approve.² These data reflect change in consciously-accessible and self-reported (i.e., “explicit”) attitudes and beliefs on surveys. The question remains open, however, as to whether less consciously accessible, indirectly-assessed *implicit* attitudes and beliefs—referred to as implicit social cognition (ISC)—can also change.

When first introduced in the 1990s, ISC was believed to be automatic, unavoidable, and immutable. If true, then it would be futile to invest effort in attempting to change ISC. Those with policy responsibility would have to consider alternative strategies for bringing about social change because ISC was rigid and slow to change. Today, the understanding of ISC is evolving. Our recent research shows that ISC is indeed capable of changing over a period of 10 years. In some cases (i.e., beliefs about sexual orientation) that change is significant and widespread.

Understanding When and Why Change in Implicit Social Cognition Succeeds or Fails

1. New methods reveal that long-term change in ISC is possible

Previous research on implicit attitude/belief change was often limited by using relatively small samples of participants collected within two or three single sessions over a day or, at most, a few months, and for only one or two attitudes/beliefs. To surmount these limitations, we used a subset of data collected from volunteers at Project Implicit's Demonstration Website (<https://implicit.harvard.edu/implicit/>), which provided more than 4.4 million tests of implicit attitudes, collected continuously for over a decade (2007–2016) across six attitudes: sexual orientation, race, skin tone, age, disability, and body weight.³

1 “The Presidency,” Gallup, accessed January 29, 2020, <https://news.gallup.com/poll/4729/presidency.aspx>.

2 Frank Newport, “In U.S., 87% Approve of Black-White Marriage, vs. 4% in 1958,” Gallup, July 25, 2013. <http://www.gallup.com/poll/163697/approve-marriage-blacks-whites.aspx>.

3 Tessa E. S. Charlesworth and Mahzarin R. Banaji, “Patterns of Implicit and Explicit Attitudes: I. Long-Term Change and Stability From 2007 to 2016,” *Psychological Science* 30, no. 2 (2019): 174-192. See also “Project Implicit,” Harvard University, <https://implicit.harvard.edu/implicit/>.

These implicit attitudes/beliefs were measured using the Implicit Association Test (IAT),⁴ a test that bypasses the need for verbal self-reporting by comparing the speed at which participants respond to relatively “congruent” pairs of pictures or words (e.g., “young” paired with “good” and “old” paired with “bad”) with the speed of responding to relatively “incongruent” pairs of pictures or words (e.g., “young” paired with “bad” and “old” paired with “good”). The greater the difference in how fast a participant can categorize these pairings, the greater their score on the IAT and the greater their implicit association.

With these data (and a new statistical approach), we find new evidence that long-term change is indeed possible across multiple implicit attitudes.

2. The fastest change is observed in attitudes about sexual orientation

Anti-gay attitudes have changed towards neutrality so fast and reliably that our forecast predicts reaching neutrality (zero bias) between the years 2025 and 2045—dates that, for many of us, will be within our lifetimes.

What is working to reduce anti-gay bias so rapidly? We offer several possible hypotheses that deserve additional study:

- a. **Widespread Contact Hypothesis:** Variations in sexual orientations are seen in all parts of society, across rich and poor, males and females, racial and ethnic groups, and all zip codes, states, and countries. Unlike groups defined by race/ethnicity, age, or disability, individuals with different sexual orientations are not as easily segregated. This provides widespread opportunity for positive contact with individuals with different sexual orientations, prompting positive attitude change.⁵
- b. **Concealed Identity Hypothesis:** Unlike age, race/ethnicity, or gender, sexuality can be a concealed identity even in adulthood. As such, positive relationships with parents, friends, and broader social networks can form before sexuality is revealed. The foundation of these positive personal relationships can help change one’s mind in the direction of greater acceptance once sexuality is revealed.⁶ Of note, concealment may decline over time as it becomes more acceptable for sexuality identities to be expressed early in life.

4 Anthony G. Greenwald, Debbie E. McGhee, and Jordan L. K. Schwartz. “Measuring Individual Differences in Implicit Cognition: The Implicit Association Test.” *Journal of Personality and Social Psychology*, 74, no. 6 (1998): 1464–1480.

5 Cara C. MacInnis, Elizabeth Page-Gould, and Gordon Hodson, “Multilevel Intergroup Contact and Antigay Prejudice (Explicit and Implicit) Evidence of Contextual Contact Benefits in a Less Visible Group Domain,” *Social Psychological and Personality Science* 8, no. 3 (April 2017): 243–251.

6 Kristin Davies, Linda R. Tropp, Arthur Aron, Thomas F. Pettigrew, and Stephen C. Wright, “Cross-Group Friendships and Intergroup Attitudes: A Meta-Analytic Review,” *Personality and Social Psychology Review* 15, no. 4 (2011): 332–351.

- c. Public Engagement Hypothesis:** Sexual orientation, race, and gender roles (the three topics moving toward neutrality) are constantly discussed in the public sphere and evoke strong opinions in a way that other attitudes/beliefs (e.g., age, disability) do not. Such public engagement (even when contentious) is likely necessary to produce change because it increases the accessibility of the attitude.⁷
- d. Positive Focus Hypothesis:** Discussions of sexuality in media and the public sphere have largely focused on marriage equality and the *granting* of rights to everyone—a positive topic that may be particularly likely to change attitudes towards acceptance. In contrast, discussions of race, age, or disability often center on reparations, inequalities in justice, hiring and accessibility, and the *taking away* of rights from marginalized groups. This more negative focus may create greater resistance and slow attitude change.
- e. Media Representation Hypothesis:** Hollywood and the media/entertainment industry broadly have invested in positive media representation of gay characters.⁸ Given the power of media in shaping attitudes/beliefs,⁹ such high frequency of positive media exposure is likely to change attitudes/beliefs.
- f. Religious Change Hypothesis:** Negative attitudes toward sexuality were often rooted in religious dogma. As belief in organized religion has been decreasing in the U.S.,¹⁰ a fundamental basis for prejudice and discrimination is evaporating.
- g. Transfer of Prejudice Hypothesis:** The sexuality attitudes we tested were restricted to the gay-straight attitudes. However, over the past decade a host of new identities have emerged to challenge the binaries of gender and sexual identities. Although this is not a desirable outcome, it is possible that the biases previously directed towards gay/lesbian individuals have been transferred to other groups, notably transgender individuals, who continue to experience widespread prejudice and discrimination.¹¹

7 Richard E. Petty and Jon A. Krosnick, eds, *Attitude Strength: Antecedents and Consequences*, Mahwah, NJ: Lawrence Erlbaum Associates, 1995.

8 See e.g., Bradley J. Bond and Brendon L. Compton, "Gay On-Screen: The Relationship Between Exposure to Gay Characters on Television and Heterosexual Audiences' Endorsement of Gay Equality," *Journal of Broadcasting & Electronic Media* 59, no. 4 (2015): 717–732; Jarel P. Calzo and L. Monique Ward, "Media Exposure and Viewers' Attitudes Toward Homosexuality: Evidence for Mainstreaming or Resonance?" *Journal of Broadcasting & Electronic Media* 53, no. 2 (May 2009): 280–299; Edward Schiappa, Peter B. Gregg, and Dean E. Hewes "Can One TV Show Make a Difference? A Will & Grace and the Parasocial Contact Hypothesis." *Journal of Homosexuality* 51, no. 4 (2006): 15–37.

9 King, Gary, Benjamin Schneer, and Ariel White. "How the News Media Activate Public Expression and Influence National Agendas." *Science* 358, no. 6364 (2017): 776–780.

10 "U.S. Public Becoming Less Religious," Pew Research Center, Religion & Public Life, November 3, 2015, <https://www.pewforum.org/2015/11/03/u-s-public-becoming-less-religious/>.

11 Aaron T. Norton and Gregory M. Herek, "Heterosexuals' Attitudes toward Transgender People: Findings from a National Probability Sample of US Adults," *Sex Roles* 68, no. 11–12 (2013): 738–753.

3. Implicit sexual orientation attitudes are not the only attitudes that are changing

Long-term change is also present in implicit race and skin-tone attitudes as well as stereotypes about gender roles. Race and skin-tone attitudes have changed by 17 percent and 15 percent, respectively.¹² Additionally, in more recent work we've also found that gender stereotypes associating women with "arts" and men with "science" as well as women with "home" and men with "career," have also changed by 17 percent and 13 percent, respectively.¹³ Given that race/skin-tone attitudes and gender stereotypes are often argued to be especially stable over the long-term,¹⁴ this result is notable and encouraging.

4. Long-term implicit attitude/belief change is widespread

In forthcoming papers,¹⁵ we examine whether these patterns of change in ISC are isolated to a few groups (e.g., women, liberals), or whether they are widespread across society. Remarkably, the patterns of change in ISC are consistent across demographics: with few exceptions, change is observed across genders, race, levels of education, religion, political affiliations, age, and geography (both U.S. states and other countries). Challenging the assumption that change is limited to only certain respondents, this new evidence shows that ISC change may be a product of widespread cultural shifts towards greater acceptance, regardless of one's demographic identity.

That said, the pace of change does vary across some groups. Liberals and young respondents have shown faster attitude change than conservatives and older respondents on both sexual orientation and race attitudes. These demographic groups may have unique social or psychological experiences that motivate greater change.

5. Not all attitudes/beliefs are changing

Implicit attitudes about age (preference for young over elderly) and disability (preference for abled over disabled) have changed by less than 5 percent over the past decade and are not forecasted to reach attitude neutrality within the next 150 years. Moreover, implicit attitudes about body weight show an increase in anti-overweight bias by 40 percent since 2004. These results underscore that, while long-

12 Tessa E. S. Charlesworth and Mahzarin R. Banaji, "Patterns of Implicit and Explicit Attitudes: I. Long-Term Change and Stability From 2007 to 2016," *Psychological Science* 30, no. 2 (2019): 174-192.

13 Tessa E. S. Charlesworth and Mahzarin R. Banaji, "Gender in Science, Technology, Engineering, and Mathematics: Issues, Causes, Solutions," *The Journal of Neuroscience* 39, no. 37 (2019): 7228-7243; Tessa E. S. Charlesworth and Mahzarin R. Banaji, "Patterns of Implicit and Explicit Attitudes II. Consistency and Variability in Long-term Attitude Change by Demographics," unpublished manuscript, last updated 2020, Microsoft Word file.

14 Elizabeth L. Haines, Kay Deaux, and Nicole Lofaro, "The Times They are A-Changing... or Are They Not? A Comparison of Gender Stereotypes, 1983-2014," *Psychology of Women Quarterly* 40, no. 3 (2016): 353-363; Kathleen Schmidt and Jordan R. Axt, "Implicit and Explicit Attitudes Toward African Americans and Barack Obama Did not Substantively Change During Obama's Presidency," *Social Cognition* 34, no. 6 (2016): 559-588; Kathleen Schmidt and Brian A. Nosek, "Implicit (and Explicit) Racial Attitudes Barely Changed during Barack Obama's Presidential Campaign and Early Presidency," *Journal of Experimental Social Psychology* 46, no. 2 (2010): 308-314.

15 Charlesworth and Mahzarin R. Banaji, "Patterns of Implicit and Explicit Attitudes II. Consistency and Variability in Long-term Attitude Change by Demographics," unpublished manuscript, last updated 2020, Microsoft Word file; Tessa E. S. Charlesworth and Mahzarin R. Banaji, "Patterns of Implicit and Explicit Attitudes and Stereotypes III. Long-term Change in Gender Stereotypes across Demographics and Countries," unpublished manuscript, last updated 2020, Microsoft Word file.

term change in multiple attitudes has moved toward neutrality, increased negativity is also possible. In this case, the increased anti-overweight negativity may emerge from a well-intentioned focus on health and wellness; however, the outcome of greater negativity is nevertheless a concerning trend for how overweight individuals are treated by healthcare providers, coworkers, and family.

6. Conclusion

New data from nearly 6 million respondents shows that implicit (and explicit) attitudes/beliefs about minority groups can and do improve over the long-term (sexuality, race, skin tone, and gender roles). Moreover, this change is widespread across most demographic groups, suggesting it is a consequence of large-scale cultural shifts. However, some implicit attitudes (about age and disability) have remained stagnant and others (about body weight) have become more biased over time. Given that implicit attitudes/beliefs are shown to predict discriminatory behavior,¹⁶ particularly when aggregated at the population level,¹⁷ understanding the nature of implicit social cognition, and especially its capacity or limits for change, remains a worthy endeavor.

16 Benedek Kurdi et. al., "Relationship between the Implicit Association Test and Intergroup Behavior: A Meta-Analysis," *American Psychologist* (2018).

17 B. Keith Payne, Heidi A. Vuletich, and Kristjen B. Lundberg, "The Bias of Crowds: How Implicit Bias Bridges Personal and Systemic Prejudice," *Psychological Inquiry* 28, no. 4 (October 2017): 233-248.

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