

# Parental Autonomy Support and Discrepancies Between Implicit and Explicit Sexual Identities: Dynamics of Self-Acceptance and Defense

Netta Weinstein  
University of Essex

William S. Ryan  
University of California, Santa Barbara

Cody R. DeHaan, Andrew K. Przybylski, Nicole Legate, and Richard M. Ryan  
University of Rochester

When individuals grow up with autonomy-thwarting parents, they may be prevented from exploring internally endorsed values and identities and as a result shut out aspects of the self perceived to be unacceptable. Given the stigmatization of homosexuality, individuals perceiving low autonomy support from parents may be especially motivated to conceal same-sex sexual attraction, leading to defensive processes such as reaction formation. Four studies tested a model wherein perceived parental autonomy support is associated with lower discrepancies between self-reported sexual orientation and implicit sexual orientation (assessed with a reaction time task). These indices interacted to predict anti-gay responding indicative of reaction formation. Studies 2–4 showed that an implicit/explicit discrepancy was particularly pronounced in participants who experienced their fathers as both low in autonomy support and homophobic, though results were inconsistent for mothers. Findings of Study 3 suggested contingent self-esteem as a link between parenting styles and discrepancies in sexual orientation measures.

*Keywords:* autonomy, self-determination theory, homophobia, defense, parenting

Attitudes toward gay and lesbian individuals drive hot-button issues in contemporary politics and society, yet there is little understanding of personal dynamics fueling such attitudes. What leads people to adopt homophobic attitudes and to act in ways consistent with these beliefs? The present research seeks to explain homophobic attitudes and behaviors using an integrated approach derived from self-determination theory (Ryan & Deci, 2000) and psychoanalytic theory (e.g., S. Freud, 1915/1961), as well as current work on dual-process models of awareness (Evans, 2008).

The present research explores the idea that low *perceived parental autonomy support* is associated with greater incongruence between explicit and implicit indicators of sexual orientation. That is, we examine whether individuals who experience a lack of autonomy support from their parents will evidence a greater discrepancy between their explicitly identified sexual orientation and

their implicit orientation, as measured using a reaction time task. We propose that such an incongruous internal state may leave individuals vulnerable to threat relating to sexual orientation and that this threat may activate defensive processes. We argue that the discrepancy between high implicit gay orientation and low explicit gay orientation might relate to more homophobia and negative attitudes and behaviors toward those who are gay. Parents who are perceived as not supporting autonomy, especially those recognized as holding negative attitudes toward lesbian and gay individuals, may potentiate experiences of defensive threat and the defensive pattern that S. Freud (1915/1961) termed *reaction formation*, in which implicit versus explicit discrepancies regarding sexual orientation are associated with greater homophobic attitudes that presumably function to minimize negative feelings toward the self.

## Autonomy-Supportive Parenting and Intrapersonal Congruence

Self-determination theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000) provides a framework for understanding developmental influences underlying discrepancies in self-concept and the dynamics of homophobia. According to SDT, autonomy support is an essential component of nurturing relationships and promotes personal integrity, well-being, and positive functioning (Ryan, 1995; Ryan & Deci, 2000). People experience autonomy when they are free to explore and identify their needs, emotions, wishes, and beliefs and can choose to act in accord with them. Such a sense

This article was published Online First January 30, 2012.

Netta Weinstein, Department of Psychology, University of Essex, Colchester, United Kingdom; William S. Ryan, Department of Psychological and Brain Sciences, University of California, Santa Barbara; Cody R. DeHaan, Andrew K. Przybylski, Nicole Legate, and Richard M. Ryan, Department of Clinical and Social Sciences in Psychology, University of Rochester.

Correspondence concerning this article should be addressed to Netta Weinstein, Department of Psychology, University of Essex, Wivenhoe Park, Colchester CO4 3SQ, United Kingdom. E-mail: netta@essex.ac.uk

of autonomy can be supported or thwarted depending on the characteristics of environments. Parent–child relationships are particularly important in providing a foundation for self-expression, as parents are present and influential during critical periods of development (Grolnick & Ryan, 1989; Joussemet, Landry, & Koestner, 2008). Autonomy-supportive parents are those who encourage self-initiation and choice and are accepting of the child’s emotions, thoughts, and reactions (Grolnick, Deci, & Ryan, 1997). They minimize pressure toward specific outcomes or ways of being (Deci & Ryan, 1985) and support authentic self-expression (Grolnick, 2009; Ryan, La Guardia, Solky-Butzel, Chirkov, & Kim, 2005). As a result, and regardless of the cultural climate, children of autonomy-supportive parents experience higher well-being (e.g., Chirkov & Ryan, 2001). They are also more actively engaged in behaviors that promote learning and healthy relationships such as pursuing schoolwork (Assor, Kaplan, & Roth, 2002) and behaving prosocially (Gagné, 2003; Kanat-Maymon & Assor, 2010).

A common way in which parents may interfere with their children’s autonomy is by conveying to the child that their love and affection is dependent on the child enacting specific behaviors and espousing sanctioned beliefs (Assor, Roth, & Deci, 2004; Roth, Assor, Niemiec, Ryan, & Deci, 2009). This failure to support autonomy often results in children acting in ways that are inconsistent with their own values and interests in an effort to maintain conditions of worth. Children confronted with this parenting approach must distinguish between emotions, behaviors, and identities that are acceptable and lovable and others that are not. Those that are unacceptable are in turn defended against or suppressed, as they pose a threat to these and perhaps other important love relationships (Rogers, 1961). In fact, data suggest that those who experience behaviorally dependent parenting experience less stable self-esteem, more introjection, and lower overall well-being (Roth et al., 2009).

In the current research we hypothesize that these effects of perceived low parental support will lead to implicit/explicit discrepancies, a connection that has not previously been explored. There has, however, been some evidence linking individual differences in autonomy to lower discrepancies between implicit and explicit attitudes. Thrash and Elliot (2002) found that those who were higher in trait autonomy or self-determination had lower implicit (projective or operant tests) versus explicit (self-report) discrepancies concerning achievement motivation. Similarly, Legault, Green-Demers, Grant, and Chung (2007) found that individuals who were more autonomous in their values for nondiscrimination evidenced more congruent implicit (assessed with a reaction time task) versus explicit (self-reported) prejudice scores. Thus both studies link greater autonomy with lower implicit/explicit discrepancies. The current studies are the first to examine how perceptions of parental autonomy support relate to implicit versus explicit discrepancies and how such discrepancies, in the central and yet often conflicted sphere of sexual identification, relate to homophobia.

### Autonomy Support and Sexual Orientation

Despite the use of terms such as gay and straight, sexual orientation is not a dichotomous construct; researchers now tend to view sexuality along a continuum (Balsam & Mohr, 2007). Although there appears to be stability in object choice when forming sexual relationships, there is a great deal of variability and fluidity in the objects that

elicit sexual arousal (Klein, Sepekoff, & Wolf, 1985). When orientation is assessed categorically, about one in 10 people identifies as gay, lesbian, or bisexual (Sell, Wells, & Wypij, 1995). However, many individuals appear to lie on a continuum between “straight” and “gay.” For these individuals, a continuous measurement can more sensitively identify sexuality (Johnson et al., 2006).

Self-identifying as gay can be threatening insofar as it increases one’s risk of encountering bias or hostile attitudes (King & Smith, 2004). For example, more than four in ten Americans believe that society should reject homosexuality (The Pew Research Center, 2007). Parents are often least accepting; the majority of mothers and fathers respond with at least some degree of negativity to their children’s same-sex attractions (Savin-Williams & Ream, 2003). This threat of being stigmatized or rejected by parents and important others likely contributes to the variable rates of self-disclosure of nonheterosexual individuals, with less than one in four gay individuals fully disclosing their sexual orientation to everyone in their life (D’Augelli, 2006).

In contexts marked by autonomy support, self-disclosure becomes more likely, as the environment represents a safer forum for self-expression. For example, Legate, Ryan, and Weinstein (2011) recently conducted a within-person study of lesbian, gay, and bisexual individuals, finding that individuals tended to be more “out” concerning their sexual orientation in social contexts (e.g., workplaces, friendships, religious communities) that they perceived as more autonomy supportive and to be less “out” in contexts experienced as less autonomy supportive. Presumably, in environments that failed to support autonomy a distinction is made between acceptable and unacceptable emotions and desires. Same-sex attractions are often categorized as unacceptable and thus likely to be suppressed or hidden.

Notably, suppression is not typically a successful strategy for eliminating unacceptable impulses, even when it is effective at keeping them out of explicit awareness (Banfield, Wyland, Macrae, Munte, & Heatherton, 2004). Thus we hypothesize that, in relationships that are controlling and unsupportive of autonomy, the perceived pressure to be a certain way might serve to lower people’s explicit reporting of same-sex attractions, creating greater discrepancy between self-reported sexual orientation and implicit indices of this same construct. Because parenting styles are central in shaping self-acceptance (Grolnick, 2003), the amount of autonomy support experienced with parents should be particularly important for the suppression of same-sex inclinations and for resultant differences between conscious and nonconscious identifications.

### Assessing Self-Discrepancies

There is increasing recognition that a person’s explicit and implicit attitudes are distinct (see Blair, 2001, and Evans, 2008, for reviews). Whereas automatic evaluative processes can lie outside of conscious awareness, self-report measures assess explicit and conscious attitudes subject to self-acceptance and deliberative responding processes. Thus, self-reports may be more discordant from implicit evaluations when relating to sensitive or potentially shaming self-relevant constructs and in cases where individuals lack awareness or do not honestly report attitudes (Thrash, Markusin, & Martin, in press). In many cases, implicit measures of attitudes or emotions are better predictors of behavior (Egloff & Schulke, 2002).

One means of assessing implicit attitudes is through the use of reaction time tasks, which use latency assessments to examine subtle evaluative processes (e.g., Greenwald, McGhee, & Schwartz, 1998). Such tests have been used to measure subtle attitudes reflecting prejudice, for example, racism (e.g., Devine, 2001; Legault et al., 2007). Though most commonly used to measure attitudes, implicit tests have been used to assess diverse constructs including self-concept (Farnham, Greenwald, & Banaji, 1999; Greenwald & Farnham, 2000), emotional reactions (Brown & Ryan, 2003), and weight identity (Grover, Keel, & Mitchell, 2003). One study so far has also used reaction time tasks for assessing participants' implicit sexual orientation and showed moderate correspondence with participants' self-reported sexual orientation (Snowden, Wichter, & Gray, 2008). Presumably in some cases explicit (self-reported) and implicit (reaction latencies) sexual orientations do not correspond. In the present studies, we examine whether such discrepancies activate defensive processes. Although there are several methods through which implicit versus explicit discrepancies have been examined in past research (Thrash et al., in press), in these studies we expect discrepancy to be manifest through moderation effects in which implicit assessments moderate the relations of explicit assessments in predicting outcomes.

### Reaction Formation

Psychodynamic theorists were the first to identify defensive processes, termed defense mechanisms, as those that serve to maintain a sense of self under conditions of non-self-acceptance (A. Freud, 1936; Shedler, 2010). Psychodynamic traditions hold that people have a preferred view of themselves, which may not reflect reality. When this idealized view is threatened by contradictory thoughts or feelings, people engage in one or more unconscious processes to defend against the threat to self. Among defensive processes that have been recognized as having some empirical support is *reaction formation*, a process indicated in the modern body of research on self-esteem preservation (e.g., Baumeister, Dale, & Sommer, 1998). Reaction formation refers to the process of adopting values or beliefs, or engaging in behaviors, that are in opposition to feelings or impulses experienced within oneself that are deemed unacceptable. Empirical work has shown reaction formation processes with respect to sexism (Sherman & Garkin, 1980), sex guilt (Morokoff, 1985), and prejudice (Dutton & Lake, 1973), indicating that individuals sometimes defend against self-relevant, threatening information by engaging in opposing behaviors.

In the present research we apply this dynamic model to examine whether those who implicitly experience same-sex interests that are not explicitly accepted react by expressing condemnation of homosexuality or homosexuals (i.e., adopting a homophobic perspective). That is, we argue that homophobic attitudes and behaviors can reflect a reaction formation in those who experienced parents as low in autonomy support and who have developed discrepancies between explicit and implicit evaluations of same-sex sexuality. A study by Adams, Wright, and Lohr (1996) provided partial support for the application of implicit/explicit discrepancies in this sphere. They demonstrated the process of reaction formation in relation to homophobia, finding that men expressing homophobic attitudes experienced more physiological

arousal in response to same-sex erotic material, though they reported lower arousal. Of importance to the present research are not only the explicit reactive opinions and beliefs but also the corresponding anti-gay responding (i.e., discriminatory bias, implicit attitudes) that function to preserve the self-concept.

### Preliminary Studies: Reaction Time Task Validation

Though reaction time tasks have been used to assess a variety of implicit self-constructs with good reliability (e.g., Asendorpf, Banse, & Mucke, 2002; Fazio, Jackson, Dunton, & Williams, 1995; Rüschi et al., 2007), because the specific task used here was developed for the present research we conducted two studies to determine whether this task serves as a valid measure of implicit sexual orientation.

### First Validation Study

To provide initial validation of our ad hoc measure of implicit sexual orientation, 92 participants (41 men, 51 women) completed the reaction time procedure described below and a number of relevant explicit questions. Higher scores on the implicit measure reflect more gay inclinations. Exploratory *t* tests and regression analyses showed no direct relations of the implicit orientation task with gender or age ( $ps > .05$ ).

**Implicit sexual orientation.** Implicit sexual orientation was measured with a reaction time task (similar to that used by Fazio et al., 1995). Participants were presented with words and pictures on a computer screen and asked to place them into the category "gay" or the category "straight," using the *Q* and *P* keys of the keyboard, respectively. Before each trial, participants were subliminally primed with either the word "me" or the word "others," which was flashed for 35 ms. The prime was masked for 35 ms, followed by a 35-ms blank screen, and finally the target word or picture. The target words were "gay," "straight," "homosexual," and "heterosexual." Target pictures were images depicting straight and gay couples, shown in Figure 1. Sixty trials in total were used, the first 10 for practice and the latter 50 for data collection. Responses were log transformed and only me-gay and me-straight pairings were used in the present analyses. Me-straight reaction times were used to account for individual differences in response time. Implicit gay orientation was computed by subtracting gay latency from straight latency; as such, higher scores reflected a faster association of "me" with gay and a lower association (slower responses) of "me" with straight.

**Convergent validity.** Participants were presented with images of attractive men and women and asked to engage in an attractiveness rating task (this provided a context to explain participants' viewing of the images). Participants were initially asked to rate one man and one woman but could choose to continue the task by clicking "more like this" under the image of the man or woman. After the first selection, participants could select to pursue images that were "more like this" or "not like this," thus continuing to rate either men or women. Participants viewed 12 images, with a minimum of one image from each gender (the initial one). Scores reflected the number of same-sex targets viewed, not counting the initial two images (which were not selected by participants;  $M = 3.73$ ,  $SD = 1.15$ ,

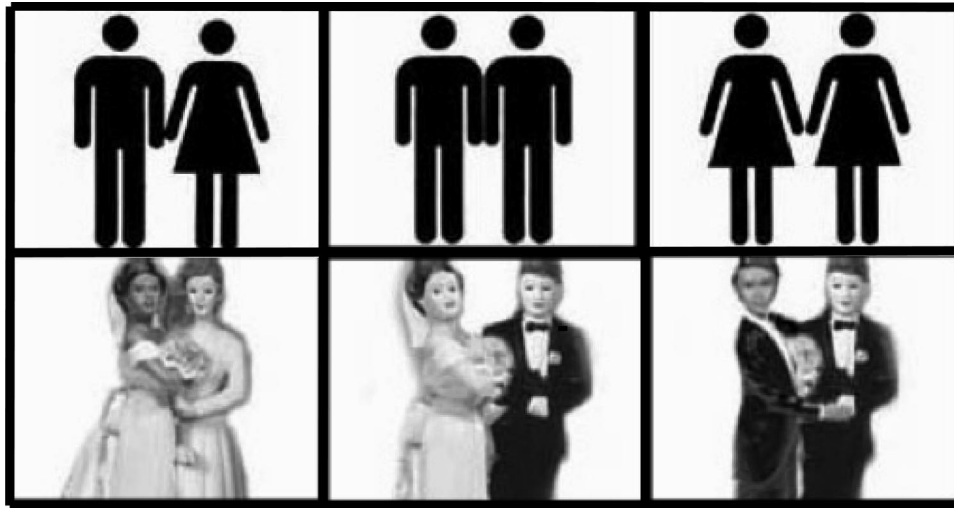


Figure 1. Images of gay and straight icons used to prime participants.

range = 0–8 [out of 10]). Higher attraction to same-sex individuals was reflected in more frequent decisions to view same-sex images and correlated with the implicit reaction time measure after partialing out explicit sexual orientation ( $r = .27, p < .001$ ), showing a link between implicit responding and a desire for or interest in attractive same-sex target exposure.

**Discriminant validity.** The discriminant validation strategy was to support a gay identity as distinct from associations (positive or negative) of oneself with the gay community or, conversely, with homophobic communities (both of which may presumably influence implicit responding). Pearson correlations showed modest or no correlation between implicit identity (via the reaction time task) and items tapping exposure to these communities (scaled from 1 = *not at all* to 5 = *very much*): “How much do you think anti-gay attitudes are characteristic of the community in which you grew up?” ( $M = 2.19, SD = 0.80, \text{range} = 1\text{--}5$ ), relation with the reaction time task,  $r = .03, p = .77$ ; “How much do you think anti-gay attitudes were present in the community in which you grew up?” ( $M = 3.11, SD = 0.85, \text{range} = 1\text{--}5$ ), reaction time relation,  $r = -.04, p = .71$ ; “How much do you think pro-gay attitudes are characteristic of the community in which you grew up?” ( $M = 2.10, SD = 0.86, \text{range} = 1\text{--}4$ ), relation with the Implicit Association Test,  $r = .08, p = .45$ ; and “How much do you think pro-gay attitudes are present in the community in which you grew up?” ( $M = 2.41, SD = 0.89, \text{range} = 1\text{--}4$ ), reaction time relation,  $r = .03, p = .78$ . Additional items assessed personal associations with these groups: “How much do you associate yourself with what you consider to be homophobic social groups?” ( $M = 2.00, SD = 0.91, \text{range} = 1\text{--}4$ ), relation with the reaction time task,  $r = .05, p = .64$ ; and “How much do you associate yourself with social groups that have affiliations with the gay community?” ( $M = 2.68, SD = 0.87, \text{range} = 1\text{--}5$ ), relation with the reaction time task,  $r = .10, p = .35$ .

## Second Validation Study

To provide additional validation for the implicit sexual orientation measure we examined the relations between a sensitive con-

tinuous measure of sexual orientation and the implicit sexual orientation measure to be used in all four studies presented below. To this end, 49 participants (28 men, 21 women) completed a brief survey and the implicit orientation task. Participants represented those self-identifying as straight ( $n = 21$ ), bisexual ( $n = 13$ ), and gay or lesbian ( $n = 15$ ) and ranged in age from 18–60 ( $M = 35$ ) years. Participants also responded to a more sensitive continuous measure of explicit sexual orientation using the single item “Which of these numbers best reflects your sexual orientation?” Response options ranged from 1 to 10, with 1 indicating *straight*, 5 indicating *bisexual*, and 10 indicating *gay*. Responses ranged from 1 to 10 ( $M = 5.04, SD = 3.28$ ). Implicit sexual orientation was measured with a reaction time task, described in the first validation study method section above.

A one-way analysis of variance compared self-identifying straight, bisexual, and gay participants on their implicit orientation and found these groups differed,  $F(2, 46) = 7.53, p < .001$ . Straight participants ( $M = .00, SD = .14$ ) had lower implicit (gay) orientations than did gay participants ( $M = .15, SD = .07$ ),  $t(33) = 3.87, p < .001$ . Bisexual participants ( $M = .07, SD = .05$ ) were not significantly different from either group,  $t(27)$  averaged 1.60,  $ps = .12$ , but they tended to have lower implicit orientations than gay participants and higher implicit orientations than straight participants.

We also expected that, generally speaking, self-identifying gay or bisexual participants would be more accurate in placing themselves on a sexual orientation continuum compared with straight participants. This was expected based on our premise that some of the straight-identifying participants would deny a gay orientation. To test this, the continuous measure of explicit sexual orientation was regressed onto implicit sexual orientation and was interacted with a contrast code comparing explicitly straight participants (coded  $-2$ ) to self-identifying gay and bisexual participants (coded 1). In general, implicit orientation related to explicit continuous orientation,  $\beta = .21, t(46) = 2.98, p = .04$ , as did the categorical contrast code,  $\beta = .78, t(46) = 10.81, p < .001$ . The two main effects interacted,  $\beta = .36$ ,

$t(45) = 4.65, p < .001$ , such that for straight participants there was no relation between implicit and explicit sexual orientation,  $\beta = .26, t(19) = 1.19, p = .25$ . However, for self-identified bisexual and gay participants, gay implicit orientation predicted gay explicit orientation,  $\beta = .69, t(26) = 4.83, p < .001$ .

### Present Studies

The present research seeks to utilize SDT, contemporary dual-process models, and psychoanalytic frameworks to explore factors associated with the discrepancy between explicit and implicit qualities of sexual orientation and resultant effects on these individuals' attitudes and behaviors. Four studies test three main hypotheses. First, we expected that (a) participants' perceptions of parental (both mother and father) autonomy support would sustain higher correlations between self-reported and implicit sexual orientation in adulthood; (b) perceived parental autonomy support would interact with perceptions of parents' homophobia, such that under conditions of perceived low autonomy support and high homophobia participants' self-reported or explicit orientation would be least related to implicit orientation; and (c) individuals high in implicit orientation but self-reporting as straight would be more likely to espouse anti-gay attitudes and behave in ways biased against gay individuals, reflective of reaction formation.

In Study 1 we assessed perceived parental autonomy support, participants' implicit and explicit sexual orientation, and self-reported homophobia to test the hypothesis that parental autonomy support would relate to lower discrepancy between automatic and explicit measures of sexual orientation, which in turn would relate to lower homophobic attitudes. Because prior work has suggested a link between conservative beliefs, authority-submissive attitudes, and prejudice (Hunsberger, 1995; Stones, 2006), we also controlled for perceptions of parents' conservative attitudes, to account for any potential confounding effects with autonomy support.

In Study 2, we assessed perceptions of parental autonomy support and parental homophobia in both German and U.S. samples to test our second hypothesis that the effects of parents' autonomy support would be moderated by parental homophobic attitudes. Additionally, to determine whether participants might act on these attitudes, a judgment assignment task was included that assessed discriminatory bias against gay and lesbian individuals.

In Study 3 we examined consequences of the implicit/explicit discrepancy concerning sexual orientation with a focus on implicit hostility toward gay others. To better understand underlying developmental processes, we also explored contingent self-esteem as a potential mediator responsible for the effects of parenting styles on discrepancy. As discussed above, in the absence of the parental autonomy support necessary for self-exploration and self-acceptance, individuals may come to believe that they are valued only when expressing certain acceptable aspects of themselves. The result is a sense of self-esteem contingent on the enactment of socially or relationally valued identities (a distinct construct from global self-esteem; Crocker & Wolfe, 2001; Deci & Ryan, 1995; Roth et al., 2009). Such a sense of self-esteem is fragile and can easily be shaken, necessitating the use of defensive processes in the service of its maintenance (Ryan & Brown, 2006). For example, Paradise and Kernis (2002) found that an autonomous orientation related to more stability in self-esteem and that those with

fragile self-esteem tend to adopt defensive orientations to prevent downswings in self-worth (Kernis, Cornell, Sun, Berry, & Harlow, 1993).

In Study 4, we replicated the basic test of our model using a more comprehensive approach for assessing explicit sexual orientation. Specifically, we sought to replicate effects with a more nuanced set of measures reflecting self-reported orientation, with items representing attraction, fantasy, and self-identity. In this fourth study we also sought to expand on the previous research by assessing a more externally valid aspect of homophobia, namely, support for anti-gay political and social policy. To this end, we included a measure assessing participants' stance on a number of social policies, some of which pertained to gay rights. Finally, a second well-validated self-report measure of homophobia, which included a more diverse set of items representing homophobic attitudes, was substituted for the measure used earlier.

## Study 1

### Method

**Participants and procedure.** Eighty-nine freshman (62 women, 27 men) aged 17–22 ( $M = 18$ ) years at a northeastern U.S. university participated in exchange for extra credit. Of these, 76 (85.4%) spoke English as a first language. Seventy-nine percent identified as Caucasian, 11% as Asian American, 5% as Hispanic, 3% as African American, and 2% as another ethnicity. On a categorical assessment of sexual orientation, 83 participants identified as heterosexual, 5 as bisexual, and one failed to respond. None identified as lesbian or gay. Participants completed surveys assessing homophobia, sexual orientation, and perceptions of parents' autonomy support among other unrelated personality surveys that served to distract participants from major study questions. They then completed a reaction time task assessing implicit sexual orientation (described in the first validation study above).

### Materials.

**Perceived parental autonomy support.** Perceptions of parental autonomy support in childhood were measured with the same three items each for mothers and fathers, adapted from the Autonomy subscale of Basic Need Satisfaction in Relationships Scale (La Guardia, Ryan, Couchman, & Deci, 2000). Participants followed these instructions: "When you were young (younger than age 14) how true were each of these statements for you with respect to your mother (father)?" Participants indicated the veracity of items separately for each parent using a 7-point scale (1 = *not at all true*, 7 = *very true*). These items all began with the stem "When I was with my father (mother)" and continued as follows: "I had a say in what happened and could voice my opinion"; "I felt controlled and pressured in certain ways" (reverse scored); and "I felt free to be who I am." Scales showed adequate internal consistency (mother  $\alpha = .64$ ; father  $\alpha = .61$ ); reliabilities for these same items are higher in subsequent studies.

**Parents' beliefs.** Participants were asked to report on their parents' beliefs on a scale ranging from 1 (*very liberal*) to 5 (*very conservative*). Both religious ( $M = 2.1, SD = 0.80$ ) and political ( $M = 2.4, SD = 0.85$ ) beliefs were assessed and were related to one another ( $r = .49, p < .001$ ).

**Explicit sexual orientation.** As in the second validation study, explicit sexual orientation was measured using the single

item “Which of these numbers best reflects your sexual orientation?” Response options ranged from 1 to 10, with 1 indicating *straight*, 5 indicating *bisexual*, and 10 indicating *gay*. Responses ranged from 1 to 6 ( $M = 2.28$ ,  $SD = 1.15$ ).

**Homophobia.** Homophobia was assessed using the Homophobia Scale (Wright, Adams, & Bernat, 1999;  $\alpha = .89$ ). The 24-item questionnaire included items such as “Gay people make me nervous,” “I fear homosexual persons will make advances towards me,” and “I would feel uncomfortable having a gay roommate.” Participants responded on a 5-point scale, from *strongly agree* to *strongly disagree*.

## Results

### Preliminary analyses.

**Parent relationships.** A multivariate analysis of variance (MANOVA) was conducted that predicted the main study variables from parents’ current relationship (together, widowed, divorced/separated) and relationship when participants were children, as well as whether participants lived with their mother, father, or both as they were growing up. Results showed that none of these factors related to perceived parental autonomy support, participants’ implicit or explicit sexual orientation, or homophobia (all  $ps > .05$ ).

**Supplementary analyses.** Analyses were conducted both with and without controlling for the two covariates, gender and parent conservative beliefs. We controlled for perceived parental conservative beliefs to account for potential confounding effects of conservative attitudes with parent-provided autonomy support (Hunsberger, 1995; Stones, 2006). Neither gender nor conservative beliefs were significantly related to sexual orientation or to homophobia (both  $ps > .05$ ). Further, the significance and direction of the primary results—those that included parental autonomy support and implicit orientation—remained the same both with and without these covariates. Thus the analyses below do not control for these two constructs.

### Primary results.

**Data analytic strategy.** Results of correlation analyses are presented in the bottom half of Table 1. Hierarchical ordinary least squares regression analyses were conducted to examine the effects of perceived parental autonomy support on explicit and implicit orientation and homophobia. Explicit sexual orientation was predicted from standardized implicit orientation and standardized perceived parental autonomy support, with both predictors entered at Step 1 and their product term entered at Step 2. We expected that

implicit orientation would relate to explicit orientation when parents were perceived to be supportive of autonomy but that there would be no link (a discrepancy between implicit and explicit orientation) when parents were perceived to provide low levels of autonomy support. As well, consistent with the reaction formation hypothesis, we expected that a discrepancy between implicit and explicit sexual orientation (such that there is high implicit orientation and low explicit orientation) would relate to homophobia. We therefore tested moderation of implicit and explicit sexual orientation in their relation to homophobia.

**Explicit sexual orientation.** Implicit sexual orientation did not directly relate to explicit orientation,  $\beta = .16$ ,  $t(55) = 1.24$ ,  $p = .22$ , and there were no effects for perceived mothers’ autonomy support,  $\beta$ s averaged  $.18$ ,  $ts(54) = 1.60$ ,  $ps = .12$ .

An interaction effect was present for perceived fathers’ autonomy support, which accounted for 9% of the variance in explicit sexual orientation,  $\beta = .40$ ,  $t(54) = 2.40$ ,  $p = .02$  (see Figure 2). To understand this interaction, simple main effects were split by perceived fathers’ autonomy support (higher than average coded 1; lower than or equal to average coded  $-1$ ). For those who perceived low autonomy support, there was no link between implicit and explicit orientation measures,  $\beta = -.21$ ,  $t(28) = -1.02$ ,  $p = .32$ , yet when fathers were high in perceived autonomy support, participants’ implicit orientation scores related to their self-reported sexual orientation,  $\beta = .46$ ,  $t(28) = 2.75$ ,  $p = .01$ .

**Participants’ self-reported homophobia.** Implicit sexual orientation and explicit sexual orientation interacted in predicting participants’ self-reported homophobia, accounting for 7% of its variance,  $\beta = -.27$ ,  $t(55) = -2.19$ ,  $p = .04$  (see Figure 3). Simple main effects split by self-reported sexual orientation showed that individuals who identified as relatively high in gay orientation showed no relation between implicit orientation and homophobia,  $\beta = -.15$ ,  $t(24) = -0.72$ ,  $p = .48$ , but for those who were low in explicit sexual orientation (i.e., straight), more implicit gay orientation related to higher homophobia,  $\beta = .56$ ,  $t(32) = 3.79$ ,  $p < .001$ . Neither mothers’ nor fathers’ perceived autonomy support was directly related to participants’ homophobia,  $\beta$ s =  $-.03$  and  $-.09$ ,  $ts(55) = -.51$  and  $-.71$ ,  $ps > .62$  and  $.48$ , respectively.

## Study 1 Conclusions

The results of Study 1 supported our primary expectation that perceiving parents as autonomy supportive is associated with greater congruence between explicit and implicit indicators of sexual orientation. These results also supported our further expect-

Table 1  
Study 1 Correlations (Below Diagonal) and Study 2 Correlations (Above Diagonal)

Variable	1	2	3	4	5	6	7	8
1. Implicit orientation	—	.11	-.20*	-.19*	.11	.12	.14	-.10
2. Explicit orientation	.14	—	.06	.14	-.25*	-.19*	-.26**	.16
3. Dad autonomy	-.16	-.04	—	.38**	.56**	.19*	-.10	.12
4. Mom autonomy	-.01	-.17	.26*	—	-.36	.80**	-.10	.08
5. Dad homophobia	—	—	—	—	—	-.37**	.16	.05
6. Mom homophobia	—	—	—	—	—	—	-.09	.04
7. Participant homophobia	.42**	.03	-.05	.06	—	—	—	.03
8. Bias in punishment	—	—	—	—	—	—	—	—

\*  $p < .05$ . \*\*  $p < .01$ .

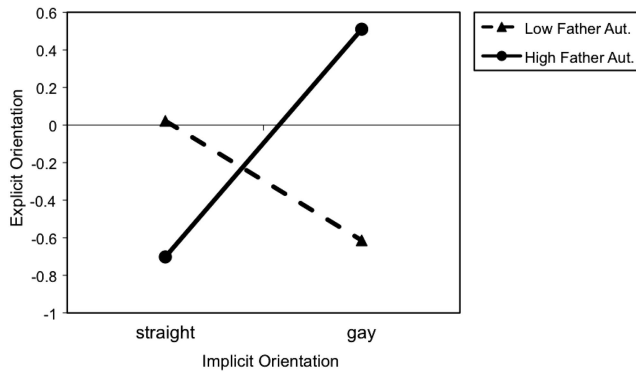


Figure 2. Study 1 interacting effects of perceived fathers' autonomy support (Aut.) and implicit sexual orientation in predicting explicit sexual orientation.

tation that those who are high in implicit orientation but low in their explicit, self-reported orientation manifest more homophobic attitudes. Parenting styles perceived to be low in autonomy support were not directly related to homophobia; instead, the sum of evidence suggested an indirect effect of perceived parenting on homophobia through participants' incongruence or discrepancy. This finding is consistent with (but does not confirm) our model of homophobic attitudes serving as a defense against unacceptable aspects of identity.

## Study 2

Study 2 was designed to build on this model by examining the influence of perceptions of parents' homophobic attitudes on participants' sexual orientation (and discrepancy between implicit and explicit indicators) and homophobia across samples collected in the United States and in Germany. Presumably, the absence of autonomy support should be particularly harmful when parents hold negative views of nonheterosexual orientations; in this case, the child's own same-sex inclinations are more likely to be perceived as threatening.

A measure of anti-gay discriminatory bias was also included in Study 2 to examine whether implicit/explicit discrepancies not only relate to self-reported homophobic attitudes but also might lead to discriminatory responses to gay targets. Additionally, this measure was designed to more subtly assess manifestations of homophobia and thus determine whether the above pattern of results held (or was strengthened) when a less overt and extreme measure of homophobia was used, one that was not subject to favorably biased responding. In this case, bias in favor of straight individuals was reflected in the severity of punishments assigned to perpetrators (implied to be gay or straight) of relatively minor, nonviolent crimes.

## Method

**Participants and procedure.** One hundred and eighty-one students (113 women, 68 men) from a U.S. ( $n = 84$ ) and a German ( $n = 97$ ) university participated in exchange for credit. Of those from the United States, 78 identified as straight, 4 as bisexual, 2 as lesbian, and none as gay. In Germany, 84 identified as straight, 12

as bisexual, 1 as lesbian, and none as gay. Participants completed the reaction time task from Study 1 and a task designed to assess aggression toward gay targets. Participants' homophobia and their perceptions of parental autonomy support and homophobia were assessed at the end of the study.

**Materials.** Materials were translated into German by one experimenter and back translated to English by a second to ensure question content was consistent across both samples. Alphas were accordingly consistent across samples and collapsed for estimates. Perceived parental autonomy support was assessed using the scales from Study 1 drawn from La Guardia et al. (2000); across samples, mother  $\alpha = .78$ , father  $\alpha = .81$ . Implicit and explicit sexual orientations were also assessed as in Study 1 (explicit  $M = 2.04$ ,  $SD = 1.91$ ). Homophobia was assessed with the same 24-item scale used in Study 1 ( $\alpha = .88$ ).

**Perceived parents' homophobia.** Participants' perceptions of their parents' homophobia were assessed using the Gay Male/Lesbian Contact subscale of the Components of Attitudes Toward Homosexuality scale (LaMar & Kite, 1998). We adapted this scale for use in assessing parental attitudes by changing "I" to "my mom" or "my dad." Fourteen items were paired with a 5-point Likert scale. Sample items include "It would be upsetting to my mom to find out she was alone with a gay man (lesbian)" and "my dad avoids gay men (lesbians) whenever possible." Homophobia was measured separately for each parent (mom  $\alpha = .94$ , dad  $\alpha = .95$ ).

**Discriminatory bias.** Discriminatory bias against gay and lesbian targets was assessed using scenarios depicting protagonists committing relatively minor crimes. Participants assigned one of five punishments (e.g., fines, hours in a cell) ranging in severity to each perpetrator. Punishment options were selected after pilot testing with a group of students naive to hypotheses indicated that these punishments were viewed as fitting the crimes, such that the average student assigned a punishment of  $M = 2.8$  ( $SD = 1.1$ ). In addition, crimes and punishments were selected only if both German and U.S. students viewed them as equally deserving of punishment ( $ps > .05$ ). A sample scenario is as follows:

Tim was driving home from his third date with Stephan/Stephanie. While driving he called his best friend to relay the exciting events of the evening. A nearby police officer pulled him over for speeding 15 mph over the speed limit, and for speaking on the phone while driving.

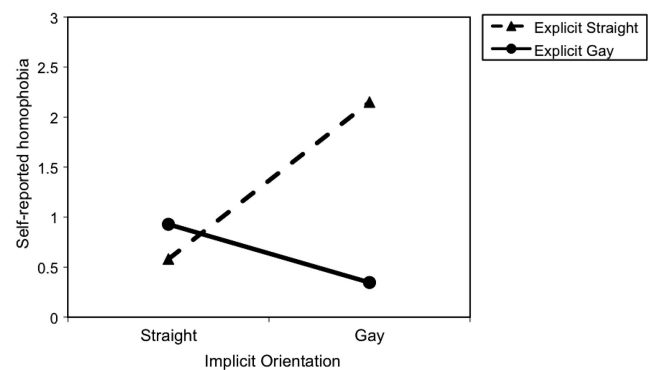


Figure 3. Study 1 interacting effects of implicit sexual orientation and explicit sexual orientation in predicting self-reported homophobia.

For this scenario, participants could select to punish the protagonist with fines ranging from \$50 to \$500.

Within each scenario, the perpetrator was identified as being either “gay” or “straight” using subtle cues. For example, in the scenario above, the male protagonist had been on a date with either Stephan or Stephanie. The implied sexual orientation of the subjects of the scenarios was randomized within subjects such that each participant was presented with three gay and three straight perpetrators, who varied randomly in their story pairing.

## Results

### Preliminary analyses.

**Parent relationships.** As in Study 1, MANOVAs examined primary study variables from parent relationship (current and past) and whether participants had lived with their mother, father, or both parents as a child. No significant effects emerged from these analyses ( $ps > .05$ ). Notably, there were no group differences predicting parental homophobia or parental autonomy support.

**Supplementary analyses.** Gender did not significantly relate to any study variables of interest ( $ps > .05$ ), and exploratory analyses found no differences in direction or significance when controlling for gender. We used  $t$  tests to contrast German and U.S. samples on all major study variables. Most comparisons were not significant ( $ps > .05$ ). An exception was an effect for Americans to report higher explicit homophobia than German participants,  $t(156) = 8.15$ ,  $p < .001$ . Since this was the only significant relation, we conducted exploratory analyses, controlling for country, to ensure the effects were consistent across the two countries. Effects did not change in significance or direction when country was controlled, with no evident moderation by country.

### Primary analyses.

**Data analytic strategy.** Correlations for all major study variables are presented in the top half of Table 1. Hierarchical regression analyses were conducted to examine the effects of parent-provided autonomy support on discrepancy, homophobia, and bias in favor of straight targets as in Study 1. In this study, we also assessed perceived parental homophobia. To analyze these data, we regressed explicit sexual orientation onto standardized values for implicit orientation, perceived parental autonomy support, and perceived parental homophobia (these entered at Step 1), their two-way interactions (entered at Step 2), and their three-way interaction (entered at Step 3). We similarly measured anti-gay responding with regression analyses by regressing each major indicator (self-reported homophobia, discriminatory bias) onto the main effects of implicit and explicit orientation in the first step and their interaction in the second step.

**Explicit sexuality.** In the present study, we examined whether perceived parental homophobia moderated the relationship between perceived parental autonomy support and implicit orientation in predicting explicit sexual orientation. Perceived fathers' autonomy support, homophobia, and participants' own implicit sexual orientation together accounted for 13% of the variance in self-reported sexual orientation. Indeed, for fathers, a three-way interaction emerged predicting explicit sexual orientation,  $\Delta R^2 = .04$ ,  $\beta = -.49$ ,  $t(120) = 2.30$ ,  $p < .05$  (see Figure 4). Simple effects were therefore tested across levels of fathers' homophobia and autonomy support. For fathers perceived to be high in autonomy support and low in homophobia (presumably, those most

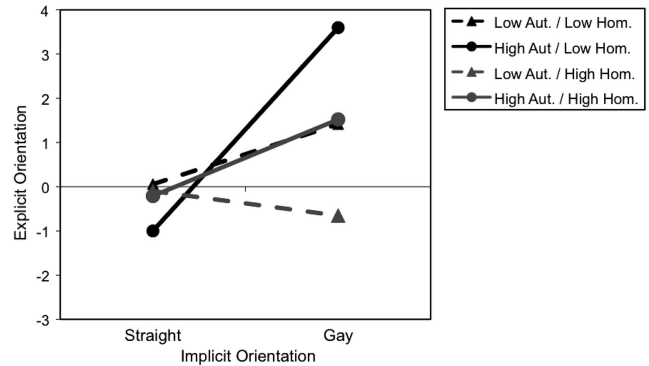


Figure 4. Study 2 three-way interaction effects of perceived fathers' autonomy support (Aut.), perceived fathers' homophobia (Hom.), and implicit sexual orientation predicting explicit orientation.

inclined to be supportive of any orientation), participants' implicit orientation was predictive of their explicit sexual orientation,  $\beta = .51$ ,  $t(44) = 3.95$ ,  $p < .001$ . Implicit orientation was also related to explicit orientation when fathers were perceived as being relatively homophobic, so long as they were also perceived as high in autonomy support,  $\beta = .62$ ,  $t(16) = 3.11$ ,  $p < .001$ . Additionally, when fathers were perceived to be low in autonomy support, but also low in homophobia,  $\beta = .45$ ,  $t(21) = 2.30$ ,  $p = .03$ , this relationship held. Yet when fathers were perceived to be high in homophobia and low in autonomy support, implicit orientation did not relate to explicit sexual orientation (in fact, a nonsignificant negative trend was present),  $\beta = -.26$ ,  $t(40) = -1.66$ ,  $p = .10$ .

For mothers, no three-way interaction emerged,  $\Delta R^2 = .00$ ,  $\beta = -.02$ ,  $t(122) = 1.00$ ,  $p = .32$ , but a two-way interaction was present for autonomy support and implicit orientation,  $\Delta R^2$  at the second step = .06,  $\beta = .23$ ,  $t(123) = 2.35$ ,  $p = .02$  (similar to the one that was present for fathers in Study 1; see Figure 2). Simple effects split by mothers' autonomy support showed a link between implicit and explicit sexual orientation when mothers were perceived to be high in autonomy support,  $\beta = .30$ ,  $t(70) = 2.75$ ,  $p < .001$ , but no relation was present when mothers were perceived to be low in autonomy support,  $\beta = -.03$ ,  $t(54) = -0.22$ ,  $p = .83$ .

**Participants' self-reported homophobia.** Participants' explicit and implicit orientations interacted in predicting self-reported homophobia,  $\Delta R^2 = .06$ ,  $\beta = -.23$ ,  $t(126) = -2.57$ ,  $p = .01$ . Simple main effects indicated that implicit orientation related to increased self-reported homophobia when explicit sexual orientation was low (when individuals self-reported as relatively straight),  $\beta = .34$ ,  $t(84) = 3.35$ ,  $p < .001$ . A negative relation emerged when individuals self-reported as relatively gay,  $\beta = -.34$ ,  $t(42) = -2.36$ ,  $p = .02$ .

Parents perceived to be higher in homophobia had children higher in homophobia, father:  $\beta = .22$ ,  $t(121) = 2.39$ ,  $p = .02$ ; mother:  $\beta = .17$ ,  $t(121) = 2.02$ ,  $p = .04$ , though neither mothers' nor fathers' autonomy support related to homophobia, father,  $\beta = -.13$ ,  $t(121) = -1.64$ ,  $p = .10$ ; mother,  $\beta = -.11$ ,  $t(121) = -1.75$ ,  $p = .09$ . The two perceived parental constructs did not interact in predicting homophobia,  $\beta$ s averaged .04,  $ts(120) = 0.21$ ,  $ps = .83$ .

**Discriminatory bias.** A similar set of findings related to bias in favor of straight targets. A marginal interaction was present for explicit and implicit sexual orientation,  $\beta = -.16$ ,  $t(125) = -1.83$ ,



$p = .07$ ,  $\Delta R^2 = .02$ . Simple effects paralleled those for self-reported homophobia (and Figure 3). When participants reported being low in explicit gay orientation (relatively straight), implicit orientation related to harsher judgments toward gay targets,  $\beta = .45$ ,  $t(49) = 3.50$ ,  $p < .001$  (this was controlling for the additional finding that these participants were harsher in their punishments of straight targets as well,  $\beta = .46$ ,  $t[49] = 3.50$ ,  $p < .001$ ). For those high in self-reported gay orientation, there was no relation between implicit orientation and discriminatory bias in judgment,  $\beta = -.09$ ,  $t(20) = -0.44$ ,  $p = .66$  (again controlling for the relation between straight and gay punishments,  $\beta = .49$ ,  $t[20] = 2.37$ ,  $p = .03$ ).

Perceptions of parents' attitudes and support accounted for 14% of the variance in homophobia. Participants who perceived their parents as homophobic indicated a greater bias against gay targets (in favor of straight targets), father:  $\beta = .37$ ,  $t(120) = 4.01$ ,  $p < .001$ ; mother:  $\beta = .21$ ,  $t(120) = 2.32$ ,  $p = .02$ . Controlling for this, both parents' provision of autonomy support predicted discriminatory bias, father:  $\beta = -.24$ ,  $t(120) = -2.73$ ,  $p < .001$ ; mother:  $\beta = -.19$ ,  $t(120) = -2.15$ ,  $p = .03$ . These main effects were qualified by interactions (accounting for an additional 7% of variance) for both mother and father, respectively,  $\beta = .15$ ,  $t(119) = 2.05$ ,  $p = .04$ , and  $\beta = .16$ ,  $t(119) = 2.09$ ,  $p = .04$ . Simple effects for both parents showed that no bias emerged when parents were low in homophobia ( $\beta$ s = .01 to .07,  $ps > .05$ ). However, when parents were perceived as homophobic, low autonomy support related to a greater bias against gay targets ( $\beta$ s =  $-.31$  to  $-.38$ ,  $ps < .01$ ).

## Study 2 Conclusions

Study 2 replicated the pattern of results found in Study 1 in a sample of U.S. and German participants, indicating that individuals who experienced parents as more supportive of autonomy exhibited less discrepancy in implicit versus explicit indicators of sexual orientation. Individuals who were high in implicit orientation but low in explicit orientation in turn reported more homophobic attitudes, replicating findings from the previous study. New to Study 2, perceived parental autonomy support related to less bias against gay targets, as indicated by the severity of punishments participants assigned for relatively minor crimes.

Experiencing parents as both high in homophobia and low in autonomy support was a particularly potent combination as related to implicit/explicit discrepancy, self-reported homophobia, and anti-gay bias. Notably, if fathers were seen as highly homophobic and low in autonomy support, there was no relation between their children's implicit and explicit orientations. In other words, these participants reported sexual orientations that were incongruent with the implicit measure of sexual orientation. In this study, mothers' homophobia did not qualify other effects. Whether mothers were high or low in homophobia, perceived maternal autonomy support related to more congruence (higher correlation) between implicit and explicit assessments of sexual orientation. For both parents, homophobia paired with low autonomy support was associated with high levels of bias against gay targets. These results suggest that the most defensive participants may have learned from parents that a nonheterosexual orientation was unacceptable, which in turn could foster explicit versus implicit incongruence. The correlational nature of these results, however, makes this causal sequence speculative.

## Study 3

In Study 3 we sought to replicate the basic model supported in the second study. Whereas Study 2 examined punishments selected for gay targets, Study 3 included a measure of implicit hostility so as to examine the effects of discrepancy on more subtle homophobic emotions toward gay others. In this study, we also tested contingent self-esteem (Paradise & Kernis, 1999) as a potential mediator of the effects of perceived parental autonomy support and parental homophobia on discrepancy. Nonautonomy-supportive parenting styles were expected to result in a sense of worth dependent on expressing only acceptable aspects of oneself. In this case, unacceptable same-sex attraction may be less likely to be expressed under conditions of fragile self-worth, leading to discrepancies between implicit and explicit measures of sexual orientation.

## Method

**Participants and procedure.** One hundred and eighty-nine students (154 women, 35 men) from a northeastern U.S. university participated in exchange for credit. Of these, 62% identified as Caucasian, 22% as Asian/Pacific Islander, 5% as African American, 6% as Hispanic, and 4% as multiracial or other. The majority reported their sexual orientation as straight (96%); three identified as gay or lesbian; and four identified as bisexual. Students completed the study beginning with the reaction time task used in Studies 1 and 2. Explicit hostility was then assessed, again using the single-item measure from the previous studies. Finally, participants completed the survey measures described below.

### Materials.

**Parent relationships.** Parent relationships were measured using items as in the previous studies. The present study included additional items asking participants to indicate the level of involvement of each parent on a 5-point Likert scale (1 = *not at all*, 5 = *very much*). Perceived autonomy need satisfaction was assessed for each parent (father  $\alpha = .75$ , mother  $\alpha = .80$ ) as in Studies 1 and 2. Perceived parental homophobia (mother  $\alpha = .95$ , father  $\alpha = .94$ ) and participants' homophobia ( $\alpha = .91$ ) were also assessed as in the previous two studies.

**Implicit hostility.** Two word-completion tasks were used to assess participants' implicit hostility toward gay targets. Each task consisted of 10 words with missing letters. For each word several possible completions exist, some of which have an aggressive connotation. Example words are as follows: [k i \_ \_], with neutral options being *kite*, *kiss*, *kilt*, and *king* and aggressive options being *kick* and *kill*; and [h \_ r \_], with neutral options being *hare*, *hire*, *hard*, and *here* and aggressive options being *hurt* and *harm*. Participants wrote down the first three word completions that came to mind. Points were assigned for each aggressive word completion; 3 points were assigned if it was the first word listed, 2 if it appeared in the second position, and 1 if it was the third word listed. These points were summed to create an implicit aggression score. Participants completed this task twice: initially, and again after being subliminally primed with the word "gay" (presentation length = 35 ms). Implicit hostility related to the concept "gay" was calculated by subtracting initial implicit hostility from implicit hostility after the gay prime ( $r = .51$ ).

**Contingent self-esteem.** Contingent self-esteem was assessed using a measure adapted from Paradise and Kernis's (1999) Con-

tingent Self-Esteem Scale. Subjects rated their level of agreement with six items ( $\alpha = .73$ ) on a 5-point Likert scale (1 = *not at all*, 5 = *very much*). Sample items include “I feel as though my self-esteem is on the line” and “I feel that I must be a certain way to feel good about myself.”

## Results

### Preliminary analyses.

**Parent relationships.** In the present study, children of divorced or separated parents reported the lowest paternal autonomy support,  $t(188) = 2.86$  to  $3.22$ ,  $ps < .001$ . In addition, participants who lived with their fathers during childhood were higher in homophobia,  $t(188) = 3.97$ ,  $p < .001$ . Exploratory regression analyses showed that greater parental involvement related to increased perceptions of parents' autonomy support, mother:  $\beta = .61$ ,  $t(188) = 6.08$ ,  $p < .001$ ; father:  $\beta = .30$ ,  $t(188) = 2.77$ ,  $p < .001$ . Because parent involvement had a consistent impact on perceptions of autonomy support, it was controlled for in primary analyses.

**Supplementary analyses.** An independent-samples  $t$  test showed no differences between men and women in their self-reports of homophobia,  $t(187) = -1.21$ ,  $p = .23$ . No gender differences in orientation and parent reports emerged ( $ps > .05$ ). Exploratory analyses of main study models demonstrated no differences in significance levels or direction of effects when gender was included in the models.

### Primary analyses.

**Data analytic strategy.** Correlations between major study variables are presented in Table 2. As in the previous studies, hierarchical regression analyses examined the effects of standardized perceptions of each parent's autonomy support and homophobia as moderating the link between explicit and implicit orientation and in predicting homophobic reactions (self-reported homophobia and implicit hostility with relation to gay targets). As before, two-way interactions were entered in a second step and three-way interactions in a third step.

**Explicit sexual orientation: Fathers.** To examine the potential moderation of the relation of implicit and explicit sexual orientation, a hierarchical regression equation was computed predicting explicit sexual orientation from the implicit measure, perceived parental autonomy support, perceived parental homophobia, and their interactions. For fathers, a three-way interaction was present,  $\Delta R^2 = .02$ ,  $\beta = .28$ ,  $t(156) = 2.03$ ,  $p = .04$ , which was

similar to that depicted in Figure 4. When fathers were perceived to be low in homophobia, implicit orientation related consistently to explicit sexual orientation,  $\beta = .49$ ,  $t(83) = 4.88$ ,  $p < .001$  (perceived father autonomy did not relate,  $\beta = .08$ ,  $t[83] = 0.81$ ,  $p = .41$ ).

On the other hand, when fathers were perceived to be high in homophobia, fathers' autonomy impacted the relation between implicit orientation and explicit orientation. When homophobic fathers were perceived to support autonomy, participants' explicit orientation related to their implicit orientation,  $\beta = .54$ ,  $t(20) = 2.86$ ,  $p = .01$ . When homophobic fathers were perceived to be low in autonomy support, however, there was no relation between implicit orientation and explicit sexual orientation,  $\beta = .10$ ,  $t(54) = 0.79$ ,  $p = .43$ .

**Explicit sexual orientation: Mothers.** A marginal three-way interaction was also present for mothers,  $\Delta R^2 = .02$ ,  $\beta = .16$ ,  $t(161) = 1.81$ ,  $p = .07$ . When mothers were perceived to be low in homophobia,  $\Delta R^2 = .00$ ,  $\beta = .05$ ,  $t(101) = 0.54$ ,  $p = .59$ , implicit orientation related to explicit orientation regardless of perceived mothers' autonomy support,  $\beta = .26$ ,  $t(102) = 2.77$ ,  $p < .001$  (with Step 1 accounting for 13% of the variance). Similarly, when mothers were perceived to be high in homophobia but also high in autonomy support, implicit orientation related to explicit orientation,  $\beta = .72$ ,  $t(18) = 9.88$ ,  $p < .001$ . Yet, there was no relation between implicit and explicit reports when mothers were perceived to be high in homophobia and low in autonomy support,  $\beta = .06$ ,  $t(42) = 0.41$ ,  $p = .68$ .

**Participants' self-reported homophobia.** As was the case in the previous studies, a two-way interaction was present between implicit and explicit orientations,  $\Delta R^2 = .03$ ,  $\beta = -.22$ ,  $t(166) = -2.28$ ,  $p = .03$  (similar to that depicted in Figure 3). Simple main effects were split by high and low explicit sexual orientation and showed that for participants who identified as straight, implicit orientation related to self-reported homophobia,  $\beta = .43$ ,  $t(104) = 4.79$ ,  $p < .001$ , though there was no relation when participants self-reported a nonheterosexual orientation,  $\beta = -.20$ ,  $t(62) = -1.38$ ,  $p = .17$ .

At Step 1, parent variables predicted 13% of the variance in participants' homophobia. Neither fathers',  $\beta = -.13$ ,  $t(183) = -1.37$ ,  $p = .17$ , nor mothers',  $\beta = -.11$ ,  $t(187) = -1.47$ ,  $p = .14$ , autonomy support related to participants' homophobia. Fathers and mothers perceived as more homophobic had more homophobic children,  $\beta = .21$ ,  $t(184) = 2.40$ ,  $p = .02$ , and  $\beta = .17$ ,  $t(187) =$

Table 2  
Study 3 Correlations for Major Study Variables

Variable	1	2	3	4	5	6	7	8	9
1. Dad homophobia	—								
2. Mom homophobia	.63**	—							
3. Dad autonomy	-.41**	-.21**	—						
4. Mom autonomy	-.28**	-.37**	.38**	—					
5. Implicit orientation	.08	.03	-.12	-.15*	—				
6. Explicit orientation	-.23**	-.25**	-.07	-.22**	.36**	—			
7. Participant homophobia	.07	-.08	-.17*	-.11	.05	.19*	—		
8. Implicit homophobia	.26**	.19**	-.23**	-.24**	.23**	.27**	.21**	—	
9. Contingent self-esteem	.26**	.17*	-.31**	-.16*	.09	-.09	.01	.21**	—

\*  $p < .05$ . \*\*  $p < .01$ .

2.06,  $p = .04$ , respectively. No interactions were present between parental autonomy support and homophobia ( $ps > .05$ ).

**Implicit hostility.** Implicit hostility reflected the relative salience of hostility after exposure to a gay prime compared to before exposure. As was the case for self-reported homophobia, a two-way interaction was present with explicit and implicit sexual orientation,  $\Delta R^2 = .03$ ,  $\beta = -.26$ ,  $t(166) = -2.63$ ,  $p < .001$  (there was no main effect for explicit sexual orientation,  $\beta = -.09$ ,  $t[167] = -1.14$ ,  $p = .26$ ). Also as for homophobia, simple effects indicated that there was no main effect of implicit orientation when participants reported a gay or bisexual orientation,  $\beta = .20$ ,  $t(62) = 1.64$ ,  $p = .11$ . On the other hand, when participants reported a straight sexual orientation, greater implicit orientation (i.e., “more gay”) related to increased implicit hostility following the gay prime,  $\beta = .26$ ,  $t(104) = 2.78$ ,  $p < .001$ .

As well, perceptions of both mothers',  $\beta = .19$ ,  $t(168) = 2.68$ ,  $p < .001$ , and fathers' homophobia,  $\beta = .25$ ,  $t(168) = 3.57$ ,  $p < .001$ , correlated with higher implicit hostility, as did lower autonomy support: mother,  $\beta = -.24$ ,  $t(168) = -3.36$ ,  $p < .001$ ; father,  $\beta = -.23$ ,  $t(168) = -3.13$ ,  $p < .001$ . For both parents, main effects of autonomy support and homophobia were qualified by their interaction,  $\beta s = -.32$  and  $-.49$ ,  $ts(164) = -2.17$  and  $-2.99$ ,  $ps = .03$  and  $< .001$ , respectively. There was no relation between autonomy support and implicit hostility toward gay targets when parents were low in homophobia,  $\beta s$  averaged  $-.08$ ,  $ts(89) = 0.92$ ,  $ps = .36$ . In the case of homophobic parents, however, parental autonomy support predicted less implicit hostility,  $\beta s$  averaged  $-.29$ ,  $ts(70) = 2.95$ ,  $ps < .001$ .

**Contingent self-esteem.** Contingent self-esteem was conceptualized as a potential mediator for the effects of parental autonomy support on discrepancy. To test this, we conducted a series of moderation analyses that attempted to demonstrate an indirect link between perceived parental autonomy support and self-reported sexual orientation. Analyses showed, as was expected, that both fathers',  $\beta = -.25$ ,  $t(166) = -3.41$ ,  $p < .001$ , and mothers',  $\beta = -.21$ ,  $t(166) = 2.71$ ,  $p < .001$ , perceived autonomy support related to lower participant contingent self-esteem.

In turn, contingent self-esteem interacted with implicit orientation to predict explicit orientation,  $\beta = -.21$ ,  $t(165) = -2.72$ ,  $p < .001$ . For participants with highly contingent self-esteem there was a moderate link between implicit and explicit sexual orientation,  $\beta = .23$ ,  $t(97) = 2.09$ ,  $p = .04$ . A more robust relation was present when individuals were low in contingent self-esteem,  $\beta = .35$ ,  $t(67) = 3.17$ ,  $p < .001$ .

Two-way moderation analyses suggested that perceptions of both parents' provision of autonomy support directly interacted with implicit orientation to predict explicit sexual orientation, mother,  $\beta = .30$ ,  $t(165) = 2.08$ ,  $p = .04$ ; father,  $\beta = .47$ ,  $t(165) = 2.63$ ,  $p < .001$ , such that for both parents, implicit orientation related to explicit orientation when parents were perceived to be high in autonomy support,  $\beta s = .21$ ,  $ts(103) = 2.00$ ,  $ps = .05$ , but did not relate when parents were experienced as low in autonomy support,  $\beta = .18$ ,  $ts(73) = 1.80$ ,  $ps = .09$ . When contingent self-esteem was included in the model these moderating effects dropped to  $\beta = .15$ ,  $t(164) = 1.45$ ,  $p = .15$ , and  $\beta = .33$ ,  $t(164) = 1.89$ ,  $p = .06$ , respectively. We used the bootstrapping method (Preacher & Hayes, 2004; Shrout & Bolger, 2002) to test an indirect pathway from perceived parental autonomy to the residual

term of explicit and implicit orientation (saved after regressing explicit orientation onto implicit orientation) via contingent self-esteem and found an indirect effect (95%, point estimate: .62, CI [.25, .99],  $p < .05$ ).

### Study 3 Conclusions

In the third study we found that perceiving one's parents as having homophobic attitudes impacted the effects that perceived parents' autonomy support had on discrepancies between implicit and explicit sexual orientations. Individuals whose parents were homophobic and nonsupportive of their autonomy were accurate in reporting their orientation when implicitly straight but were most likely to underreport an implicit gay orientation. In the present study, this finding held for both mothers and fathers, though it was apparent only for fathers in Study 2. In turn, those individuals who were relatively more gay by implicit assessments, but who self-identified as straight—that is, those who failed to report (or perhaps be aware of) implicit gay impulses—were more likely to exhibit anti-gay attitudes, as assessed with self-report (as in Studies 1 and 2) and with a measure of implicit hostility activated after a gay-related prime.

In this third study we also explored contingent self-esteem as a potential mechanism responsible for the effects of parental autonomy support on the congruence between one's implicitly and explicitly assessed sexual orientations. We found that participants who perceived their parents as being low in autonomy support evidenced greater contingent self-esteem, consistent with previous research in SDT (e.g., Deci & Ryan, 1995; Roth et al., 2009). This was especially the case when parents conveyed that a gay orientation would be unacceptable (i.e., were perceived to be high in homophobia). In turn, contingent self-esteem related to discrepancies between implicit and explicit reports for those individuals who evidenced a high implicit gay orientation, and it mediated the effects of parental autonomy support on those discrepancies.

### Study 4

A final study was conducted to clarify and complement the previous findings with a more comprehensive examination of the research question. To this end, we employed a diverse set of assessments reflecting explicit sexual orientation in order to more fully represent sexual orientation as reflecting both identity and attraction (Sell, 1997). In the same spirit, self-reported homophobia was assessed using a multidimensional measure, which included both cognitive and emotional homophobic reactions. Finally, to extend the implications of our model to other real-world outcomes, we assessed participants' positions on policies relevant to gay and lesbian rights while controlling for their general liberal or conservative political positions.

### Method

**Participants and procedure.** One hundred and eighty-four students (140 women, 44 men) from a northeastern U.S. university participated in exchange for credit. Of these, 66% identified as Caucasian, 18% as Asian/Pacific Islander, 7% as African American, 3% as Hispanic, and 4% as multiracial or other. The procedure was identical to that used in the previous studies, with the addition

of a more diverse set of measures assessing explicit sexual orientation and an assessment of social policies related to gay rights.

### Materials.

**Sexual orientation.** Explicit sexual orientation was measured using the continuous scale item employed in previous studies ( $M = 1.6$ ,  $SD = 1.6$ , range = 1–10). In this study we also measured explicit sexual orientation in a number of other ways. First, participants responded to the item “How accurate are each of the following terms in describing your sexuality,” ranking the terms “heterosexual” and “homosexual” using a 1 (*completely inaccurate*) to 9 (*completely accurate*) scale (Schmitt & Buss, 2000). In addition, we asked participants, “Please rate the extent to which you identify with the following categories,” with “straight” and “gay/lesbian” paired with a seven-item scale ranging from 1 (*not at all*) to 7 (*strongly*). Finally, participants reported their attraction to men and women, separately, using scales ranging from 1 (*not at all attracted*) to 7 (*very attracted*) and the extent to which they fantasize about men and about women, separately, using scales ranging from 1 (*never*) to 7 (*frequently*); these items were derived from the Klein Sexual Orientation Grid (Klein, 1993). From these items we computed opposite- and same-sex attraction scores by recoding ratings according to participants’ gender (e.g., for women, attraction to women was coded as same-sex attraction). Finally, from the recomputed scores we constructed relative opposite-sex attraction scores (relative opposite-sex attraction = opposite-sex attraction – same-sex attraction:  $r = -.85$ ,  $p < .01$ ; fantasy:  $r = -.64$ ,  $p < .01$ ).

Principal components analyses on the seven resulting items reflecting sexual orientation revealed one factor with an eigenvalue of 5.42, onto which all these items loaded higher than .82. Correlations between all indicators of sexual orientation are presented in Table 3. Reliability for the seven items was .95.

**Homophobia.** Self-reported homophobia was measured with the well-validated Components of Attitudes Toward Homosexuality scale (LaMar & Kite, 1998). Participants responded to 49 items using a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Items represented a broad underlying construct of negative attitudes toward gay individuals, which was represented

by six subscales: (a) Condemnation/Tolerance (e.g., “Lesbians [gay men] are a danger to young people”), (b) Gay Male/Lesbian Social Norms/Morality (e.g., “Gay men [lesbians] endanger the institution of the family”), (c) Neutral Morality (e.g., “Homosexuality is a perversion”), (d) Gay Male/Lesbian Contact (e.g., “I would be nervous if a gay man [lesbian] sat next to me on a bus”), (e) Neutral Contact (e.g., “If a member of my sex made advances toward me, I would feel angry”), and (f) Gay Male/Lesbian Stereotypes (e.g., “Most lesbians [gay men] like to dress in opposite-sex clothing”). The overall scale had acceptable reliability ( $\alpha = .78$ ), and subscale alphas ranged from .77 to .92.

**Social policy.** Participants reported their stance on orientation-relevant policy positions: gay marriage; “don’t ask, don’t tell”; and adoption by same-sex couples ( $\alpha = .91$ ). We also asked participants to give their positions on orientation-irrelevant policy positions: legalized abortion, legalization of marijuana, universal health care, and welfare support (average  $\alpha = .82$ ). Participants reported their position on these topics using a 5-point scale (1 = *I am strongly against this policy* to 5 = *I am strongly in favor of this policy*). Stance on orientation-irrelevant policies was measured in order to control for overall political liberalism. Subjects were presented with the following scale:

The following are popular and highly debated policies. Everyone has different opinions about these policies. No opinion is right or wrong. What is your opinion?

1. Same-sex marriage, the legally or socially recognized marriage between two persons of the same sex.
2. The military’s policy of don’t ask, don’t tell, which argues that as long as gay individuals don’t disclose their sexuality they can stay in the military.
3. Welfare for all, or the provision of financial support to any individuals, provided they lose their job or can’t find a job, and that they are actively searching for work.
4. Legalization of marijuana: such that marijuana is legally considered to be on the same level as alcohol possession.

Table 3  
Study 4 Correlations Between All Indicators of Sexual Orientation

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Implicit orientation	—											
2. Single-item measure	.35**	<b>.91</b>										
3. Same-sex attract	.31**	.78**	—									
4. Opposite-sex attract	-.32**	-.65**	-.48**	—								
5. Relative attract <sup>a</sup>	.36**	.84**	.90**	-.81**	<b>.88</b>							
6. Same-sex fantasy	.24**	.75**	.79**	-.44**	.74**	—						
7. Opposite-sex fantasy	-.07	-.34**	-.22**	.50**	-.39**	-.14	—					
8. Relative fantasy <sup>a</sup>	.19**	.70**	.64**	-.62**	.73**	.71**	-.80**	<b>.82</b>				
9. Extent gay	.28**	.82**	.59**	-.68**	.73**	.61**	-.38**	.64**	<b>.88</b>			
10. Extent straight	-.35**	-.82**	-.66**	.71**	-.79**	-.65**	.40**	-.69**	-.79**	<b>-.92</b>		
11. Accurate heterosexual	-.40**	-.69**	-.58**	-.69**	-.69**	-.58**	.44**	-.67**	-.67**	.82**	<b>-.88</b>	
12. Accurate homosexual	.30**	.73**	.52**	.66**	.66**	.55**	-.44**	.65**	.77**	-.73**	-.85**	<b>.87</b>

Note. Values in bold on the diagonal are factor loadings onto the single shared factor derived from principal components analysis. Dashes on the diagonal indicate that items were not included in the factor analyses because they were used to compute composites (as in the case of the relative items).

<sup>a</sup> These relative variables were each calculated by subtracting the opposite-sex item from the same-sex item (relative attract = same-sex attract – opposite-sex attract; relative fantasy = same-sex fantasy – opposite-sex fantasy).

\*\*  $p < .01$ .

5. Universal health care: partial regulation of health care by the government to ensure that all individuals have access to health coverage.
6. Adoption by same-sex couples: the rights of same-sex couples to adopt infants or small children as readily as can straight couples.
7. Legalized abortion, such that early term abortion practices in specified medical settings are considered lawful practice.

explicit sexual orientation was assessed using a composite of the seven items described above.

**Explicit sexual orientation: Fathers.** Three-way interactions were conducted moderating each parent’s autonomy support and homophobia by participants’ implicit orientation. A marginal three-way interaction was present for fathers,  $\Delta R^2 = .03$ ,  $\beta = -.16$ ,  $t(170) = -1.79$ ,  $p = .07$  (similar to the one depicted in Figure 4). When fathers were perceived as low in homophobia, implicit orientation always related to gay orientation,  $\beta = .47$ ,  $t(88) = 4.78$ ,  $p < .001$ . For those who perceived their fathers as high in homophobia, implicit orientation marginally related to explicit orientation,  $\beta = .27$ ,  $t(45) = 1.97$ ,  $p = .06$ , but this effect was more robust when fathers were perceived as supporting autonomy,  $\beta = .39$ ,  $t(36) = 2.91$ ,  $p < .001$ .

**Explicit sexual orientation: Mothers.** As in Study 2, there was no three-way interaction present for mothers,  $\Delta R^2 = .00$ ,  $\beta = -.01$ ,  $t(170) = -0.09$ ,  $p = .92$ . Instead, a two-way interaction was present between perceived mothers’ autonomy and implicit sexual orientation,  $\beta = -.14$ ,  $t(171) = -2.63$ ,  $p < .001$  (Step 2  $\Delta R^2 = .07$ ). When mothers were perceived to be supportive of autonomy, implicit orientation related to explicit sexual orientation,  $\beta = .49$ ,  $t(106) = 5.80$ ,  $p < .001$ , but this relationship was weaker when mothers were perceived to be low in support,  $\beta = .21$ ,  $t(68) = 1.75$ ,  $p = .08$ .

**Participants’ self-reported homophobia.** As in the previous studies, a two-way interaction was present between implicit and explicit orientations,  $\Delta R^2 = .04$ ,  $\beta = -.36$ ,  $t(174) = -2.12$ ,  $p = .03$ . For participants who reported a straight orientation, implicit orientation related to homophobia,  $\beta = .67$ ,  $t(132) = 10.54$ ,  $p < .001$ ; yet there was no relation when participants reported as relatively gay,  $\beta = .07$ ,  $t(62) = 0.47$ ,  $p = .64$ . Exploratory analyses were conducted with each of the subscales of the homophobia questionnaire and showed these effects were largely carried by the Condemnation, Morality, and Contact subscales, an interesting result in that these subscales seem to reflect more emotional components of homophobic responding.

Neither parent’s perceived autonomy support related to participants’ homophobia, average  $\beta = -.06$ ,  $t(174) = -0.90$ ,  $p = .37$ .

**Results**

**Preliminary analyses.**

**Parent relationships.** Children of divorced or separated parents reported lower paternal autonomy support,  $t(181) = 2.01$  to  $2.09$ ,  $ps = .04$ . Additional analyses indicated parental involvement related to perceived parental autonomy, mother:  $\beta = .29$ ,  $t(180) = 3.01$ ,  $p < .001$ ; father:  $\beta = .19$ ,  $t(180) = 2.04$ ,  $p = .04$ . Because parental involvement had a consistent impact on perceptions of autonomy support, it was controlled for in primary analyses.

**Supplementary analyses.** Independent-samples *t* tests were performed and showed that women reported higher homophobia overall,  $t(181) = 2.62$ ,  $p < .001$ , carried primarily by the subscales Contact,  $t(181) = 3.43$ ,  $p < .001$ , and Stereotypes,  $t(181) = 2.56$ ,  $p = .01$ . Exploratory analyses of the main study models demonstrated no differences in significance levels or direction of effects when gender was included in the models. In addition, age did not relate to homophobia or to implicit or explicit sexual orientation ( $ps > .05$ ).

**Primary analyses.**

**Data analytic strategy.** Correlations between major study variables are presented in Table 4. As was the procedure in the previous studies, hierarchical regression analyses examined the effects of perceptions of each parent’s autonomy support and homophobia as moderating the link between explicit and implicit orientation and in predicting homophobic reactions (self-reported homophobia and support for anti-gay policy). Thus, the three constructs were standardized and tested in a first step of analyses, their two-way interactions were tested in a second step, and their three-way interactions were tested in a final step. In this study,

Table 4  
Study 4 Correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Dad homophobia	—													
2. Mom homophobia	.60**	—												
3. Dad autonomy	-.29**	-.19**	—											
4. Mom autonomy	-.16*	-.29**	.41**	—										
5. Explicit gay	-.41**	-.32**	.35**	.35**	—									
6. Implicit gay	.30**	.10	-.14	-.07	.36**	—								
7. Condemn	.29**	.41**	.03	-.09	-.43**	.10	—							
8. Social norms	.14	.23**	.03	-.09	-.26**	.39**	.50**	—						
9. Contact	.33**	.45**	-.01	-.10	-.50**	.16*	.82**	.69**	—					
10. Neutral contact	.35**	.51**	.07	-.08	-.45**	.11	.80**	.56**	.82**	—				
11. Stereotypes	.36**	.51**	-.01	-.07	-.30**	.11	.58**	.42**	.64**	.70**	—			
12. Homophobia total	.33**	.48**	.03	-.08	-.47**	.19*	.88**	.71**	.95**	.92**	.74**	—		
13. Policy gay	-.28**	-.38**	-.08	.11	.31**	-.16	-.62**	-.56**	-.71**	-.79**	-.56**	-.77**	—	
14. Policy neutral	-.26**	-.24**	-.12	-.26*	.02	.02	-.23**	-.21**	-.29**	-.28**	-.25**	-.29**	.25**	—

\*  $p < .05$ . \*\*  $p < .01$ .

On the other hand, perceptions of both parents' homophobia related to higher participant homophobia, father:  $\beta = .37$ ,  $t(174) = 5.00$ ,  $p < .001$ ; mother:  $\beta = .49$ ,  $t(174) = 7.13$ ,  $p < .001$  (Step 1  $R^2 = .19$ ). No interactions were present ( $ps > .05$ ).

**Policy position.** Pro-gay policy positions were predicted from implicit and explicit gay orientation, controlling for gay-irrelevant policy positions. Once again, a two-way interaction was present with explicit and implicit sexual orientation, this time in predicting policy positions,  $\Delta R^2 = .05$ ,  $\beta = .16$ ,  $t(166) = 2.23$ ,  $p = .02$  (see Figure 5). As was the case for homophobia, implicit orientation did not relate to support for pro-gay policy for those who self-identified as relatively gay,  $\beta = .19$ ,  $t(62) = 1.23$ ,  $p = .22$ . On the other hand, when participants reported a straight orientation, higher implicit orientation scores related to lower support for pro-gay policy,  $\beta = -.49$ ,  $t(131) = -6.30$ ,  $p < .001$ .

As well, both mothers',  $\beta = -.35$ ,  $t(174) = -4.70$ ,  $p < .001$ , and fathers' homophobia,  $\beta = -.28$ ,  $t(174) = -3.71$ ,  $p < .001$ , correlated with lower support for pro-gay policy, though autonomy support did not: mother,  $\beta = -.02$ ,  $t(174) = -0.29$ ,  $p = .77$ ; father,  $\beta = .02$ ,  $t(174) = 0.29$ ,  $p = .77$  (no interactions were present,  $ps > .05$ ).

## Study 4 Conclusions

Study 4 results were largely consistent with those of the previous studies in showing that parenting styles impact the congruence between implicit and explicit sexual orientations. Participants who perceived their fathers to be homophobic and nonsupportive of autonomy were least likely to report a same-sex sexual attraction even when implicit reports indicated these feelings might be present. This was also the case for those who perceived their mothers to be nonsupportive of autonomy. These participants reported the most homophobic attitudes and emotional reactions and were least likely to support pro-gay policies when controlling for their other political views.

## General Discussion

Four studies supported our hypotheses that individuals who perceived parents as supporting their autonomy would evidence greater congruence between implicit and explicit indices of sexual orientation. On the other hand, participants who experienced their

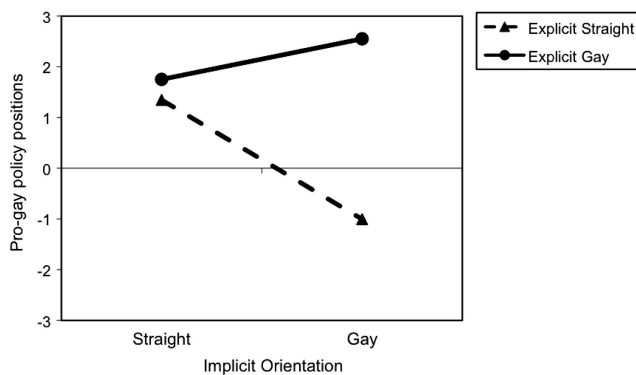


Figure 5. Study 4 pro-gay policy positions regressed onto the two-way interaction of implicit orientation and explicit orientation.

parents as low in autonomy support evidenced greater discrepancies. This effect was more consistently present for fathers and particularly pronounced for individuals who perceived their fathers to be homophobic as well as nonsupportive.

As a second aspect of our thesis, discrepancy between implicit and explicit sexual orientation measures, was expected and shown to relate to greater self-reported homophobia (all four studies), discriminatory bias (Study 2), implicit hostility toward gay targets (Study 3), and endorsement of anti-gay policy positions (Study 4). These indicators are consistent with the process of reaction formation (A. Freud, 1936); participants who reported themselves to be more heterosexual than their performance on the reaction time task indicated were most likely to react with hostility to gay others.

In Study 3, we additionally found that the relation between parenting styles and discrepancy is mediated by contingent self-esteem. In other words, experiencing a less autonomy-supportive parenting style was related to more contingent self-esteem in the participant, which in turn was associated with less congruence in sexual orientation measures.

Study 4 results provided further support for the overall model, as they replicated effects using additional items tapping explicit sexual orientation as well as an alternative, well-validated explicit measure of homophobia. The relatively consistent pattern of results emerging from this study indicates that the one-item measure of explicit orientation in Studies 1–3 serves as one useful indicator of self-reported or explicit sexual orientation and is consistent with items tapping other aspects of sexual attraction and orientation.

## Perceived Parenting Styles

Previous empirical work has supported the claim that parents' homophobic attitudes can influence their children's homophobia (O'Bryan, Fishbein, & Ritchey, 2004). The present studies further explore this connection and the underlying mechanisms. Together these studies indicate that children are affected by their perceptions of their parents' attitudes and that this relation involves, at least in part, the child's self-concept and dynamics of threat and defense.

In Studies 2–4, participants who perceived their parents as being homophobic displayed a greater discrepancy between implicit and explicit measures of orientation, suggesting that exposure to homophobic attitudes at home inhibits children's sexual self-exploration. Participants who reported that they had observed their parents rejecting others as a function of sexual orientation may have expected similar rejection had they acknowledged some degree of same-sex attraction within themselves.

In the three latter studies, these effects of fathers' homophobia depended on the paternal provision of autonomy support. Participants experiencing autonomy-supportive fathers were not impacted by their fathers' homophobic attitudes, whereas those who saw their fathers as both controlling and homophobic exhibited more discrepant implicit and explicit indices of sexual orientation. Presumably, when fathers afforded their children the freedom for self-exploration, they were not motivated to suppress gay inclinations, even when these went against paternal attitudes. Instead, autonomy-supportive fathers may have conveyed their valuing of self-expression, even in conditions countering their own specific beliefs. This pattern of results was inconsistent for mothers, emerging in Study 3 only. Nonetheless, mothers still had an impact on their children's homophobia in Studies 2 and 4, but this effect

seemed to be carried entirely by perceptions of mothers' autonomy support and not by perceived mothers' homophobia.

### Homophobic Attitudes and Behavior

Taken together, the above studies suggest that incongruence between implicit and explicit measures of sexual orientation is predictive of a variety of measures of homophobia and homophobic-consistent behaviors, namely, self-reported homophobia (measured with two validated scales), discriminatory bias, implicit hostility toward homosexuals, and endorsement of anti-gay policies. Although the present research does not directly examine the motivational underpinnings of the relationship between sexual orientation discrepancies and homophobia, we propose that these effects can be understood, at least in part, as a defensive response to maintain the suppression of self-relevant, but threatening, information.

Specifically, we believe this pattern of results to be consistent with the defense of reaction formation (A. Freud, 1936). When parents were perceived as controlling, and especially when fathers were experienced as both controlling and homophobic, participants exhibited less congruency in sexual orientation measures and in turn demonstrated more anti-gay sentiments. Gay targets may threaten to bring this incongruence to the forefront and thus elicit this defensive process (Baumeister et al., 1998; Cramer, 1991; A. Freud, 1936; S. Freud, 1915/1961; Shedler, 2010). In the present studies, outcomes for reaction formation were varied and included more endorsement of anti-gay rights policies, the assignment of harsher punishments, and increased implicit hostility toward gay targets. Outside of the lab context defensive processes may take the additional forms of verbal and physical assault, including bullying, directed toward those perceived to be gay.

Media coverage of gay-related hate crimes often suggests some level of threat experienced by the perpetrator in relation to the gay victim, as in the case of Larry King, the middle school student murdered by his classmate shortly after Larry allegedly told him he loved him. This dynamic may also be at play in the cases of political and religious leaders who, despite strongly outwardly opposing gay rights, are caught engaging in same-sex sexual acts. Memorable cases include Larry Craig, the U.S. senator who twice voted against including sexual orientation in hate crime legislation; Ted Haggard, the evangelical preacher who served as an advisor to Bush lobbying against gay rights and teaching that homosexuality is an abomination; and Glenn Murphy Jr., former chairman of the Young Republicans, who was a vocal opponent of gay marriage (Gorton, 2007). Although there may be other plausible explanations, these latter examples might well represent high-profile cases of anti-gay political bias associated with incongruence in sexual orientations, a dynamic demonstrated in our Study 4.

### Contingent Self-Esteem

In the third study we also explored the mediating role of contingent self-esteem (Paradise & Kernis, 1999) in the development of discrepancy as a function of more controlling parent relationships. The result was in line with previous research: Participants who experienced parents as not autonomy supportive evidenced discordance in sexual orientation assessments and also reported higher contingent self-esteem. In other words, it seems these

participants experience themselves as valued or lovable only to the extent that they embody desirable attributes and do not embody undesirable ones. This may translate into these individuals valuing themselves in a similarly contingent way (Ryan & Brown, 2006), underscoring the dynamic nature of both incongruence and its consequences (e.g., Uysal, Lin, & Knee, 2010; Weinstein, Deci, & Ryan, 2011).

### The Role of Culture

Since homophobic attitudes, like other attitudes, develop as a function of societal and home environments, Study 2 tested whether the hypotheses generalized to a culture other than that of the northeastern United States. The finding that German participants were less explicitly homophobic than their American counterparts, despite no cultural differences in perceived parental autonomy support or homophobia, indicates that culture may play an independent role in the formation of homophobic attitudes. Yet, despite any cultural differences, the basic developmental processes by which parents influenced the development of homophobic attitudes and behaviors in their children did not differ across countries, suggesting that the role autonomy support plays in encouraging self-acceptance of sexual identities is not culturally bound. Obviously, given that both samples come from Western nations, this was a very limited test of cross-cultural generality, and other, varied cultures and subcultural contexts should be examined.

### Limitations and Future Directions

There are several limitations of this study that should be addressed in future research. First, these studies were conducted on college students no longer (though relatively recently) living with their parents. It may be helpful to test these effects in younger adolescents still living in the home and in older adults who have spent a longer time away from parents' influence. Such samples could help identify the extent to which perceived parental styles vary with identity discrepancy and intolerance, as well as how more proximal social contexts impact these outcomes. Additionally, given the correlational nature of many of the present findings, causal and developmental inferences cannot be reliably made. Though evidence examining developmental lines and stable self-identities may be difficult to attain, experimental studies that introduce threatening self-relevant information might help to support the causal model implied in these studies. In addition, direct measurement of parental practices and attitudes and longitudinal research would help to disentangle actual socialization sources from projections of parents that may be associated with internalized stigma and the implicit/explicit discrepancies related to it. For example, an alternative explanation might be that participants who are already homophobic have a distorted recollection of their upbringing and of their parents' attitudes. Directly assessing parental attitudes would help to better understand these relations.

Despite these and other limitations, the present research highlights experiences of autonomy support as important ingredients to successful self-acceptance and self-expression and ultimately less reactive (homophobic) attitudes. The observed relations of autonomy-supportive parenting experiences and intrapersonal congruence are likely not unique to sexual orientation but may be

generalized to other feelings, desires, and needs that may be potentially threatening or reflect negatively on the self. In addition, other social contexts beyond the parent–child relationship may differentially support autonomy and thus foster patterns of defense for those with implicit same-sex attractions. Receiving autonomy support as an adult from peers, partners, or work colleagues might act as a buffer to compensate for childhood experiences of control or contingent regard, facilitating self-acceptance at a later stage in life. Studies focused on autonomy support in different social contexts might also show how much these discrepancy and defense effects vary with situations or at a within-person level. Illustratively, Legate et al. (2011) recently found that the well-being of lesbian, gay, and bisexual individuals did vary as a function of the autonomy support in these individuals' immediate social contexts. Finally, future research might also examine how variations in autonomy support could potentially foster identity-related discrepancies in other domains for which polarized cultural prescriptions or stigmatizing evaluations exist (career choices; political, religious, or cultural beliefs; etc.).

The present studies of implicit and explicit sexual orientation indices and their relations to perceived parental support for autonomy have implications for interventions aimed at reducing homophobia and the particularly salient problem of children bullying other children who are perceived as gay. The present research also suggests that homophobia cannot be conceptualized simply as a set of beliefs and values. Rather it appears to reflect, in part, perceived relational processes, dynamics of threat and defense, and capacities for self-acceptance.

## References

- Adams, H. E., Wright, L. W., & Lohr, B. A. (1996). Is homophobia associated with homosexual arousal? *Journal of Abnormal Psychology, 105*, 440–445. doi:10.1037/0021-843X.105.3.440
- Asendorpf, J. B., Banse, R., & Mucke, D. (2002). Double dissociation between implicit and explicit personality self-concept: The case of shy behavior. *Journal of Personality and Social Psychology, 83*, 380–393. doi:10.1037/0022-3514.83.2.380
- Assor, A., Kaplan, H., & Roth, G. (2002). Choice is good, but relevance is excellent: Autonomy-enhancing and suppressing teacher behaviors in predicting students' engagement in school work. *British Journal of Educational Psychology, 72*, 261–278. doi:10.1348/000709902158883
- Assor, A., Roth, G., & Deci, E. L. (2004). The emotional costs of perceived parental conditional regard: A self-determination theory analysis. *Journal of Personality, 72*, 47–88. doi:10.1111/j.0022-3506.2004.00256.x
- Balsam, K. F., & Mohr, J. J. (2007). Adaptation to sexual orientation stigma: A comparison of bisexual and lesbian/gay adults. *Journal of Counseling Psychology, 54*, 306–319. doi:10.1037/0022-0167.54.3.306
- Banfield, J. F., Wyland, C. L., Macrae, C. N., Munte, T. F., & Heatherton, T. F. (2004). The cognitive neuroscience of self-regulation. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of self-regulation: Research, theory and applications* (pp. 62–83). New York, NY: Guilford Press.
- Baumeister, R., Dale, K., & Sommer, K. (1998). Freudian defense mechanisms and empirical findings in modern social psychology: Reaction formation, projection, displacement, undoing, isolation, sublimation, and denial. *Journal of Personality, 66*, 1081–1124. doi:10.1111/1467-6494.00043
- Blair, R. J. R. (2001). Neuro-cognitive models of aggression, the antisocial personality disorders and psychopathy. *Journal of Neurology, Neurosurgery & Psychiatry, 71*, 727–731. doi:10.1136/jnnp.71.6.727
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*, 822–848. doi:10.1037/0022-3514.84.4.82
- Chirkov, V. I., & Ryan, R. M. (2001). Parent and teacher autonomy-support in Russian and U.S. adolescents: Common effects on well-being and academic motivation. *Journal of Cross-Cultural Psychology, 32*, 618–635. doi:10.1177/0022022101032005006
- Cramer, P. (1991). *The development of defense mechanisms*. New York, NY: Springer-Verlag. doi:10.1007/978-1-4613-9025-1
- Crocker, J., & Wolfe, C. T. (2001). Contingencies of self-worth. *Psychological Review, 108*, 593–623. doi:10.1037/0033-295X.108.3.593
- D'Augelli, A. R. (2006). Developmental and contextual factors and mental health among lesbian, gay, and bisexual youths. In A. E. Omoto & H. M. Kurtzman (Eds.), *Sexual orientation and mental health: Examining identity and development in lesbian, gay, and bisexual people* (pp. 37–53). Washington, DC: APA Books. doi:10.1037/11261-002
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York, NY: Plenum Press.
- Deci, E. L., & Ryan, R. M. (1995). Human autonomy: The basis for true self-esteem. In M. Kernis (Ed.), *Efficacy, agency and self-esteem* (pp. 31–49). New York, NY: Plenum Press.
- Devine, P. G. (2001). Implicit prejudice and stereotyping: How automatic are they? Introduction to the special section. *Journal of Personality and Social Psychology, 81*, 757–759. doi:10.1037/0022-3514.81.5.757
- Dutton, D. G., & Lake, R. A. (1973). Threat of own prejudice and reverse discrimination in interracial situations. *Journal of Personality and Social Psychology, 28*, 94–100. doi:10.1037/h0035582
- Egloff, B., & Schmulke, S. C. (2002). Predictive validity of an implicit association test for assessing anxiety. *Journal of Personality and Social Psychology, 83*, 1441–1455. doi:10.1037/0022-3514.83.6.1441
- Evans, J. S. (2008). Dual-processing accounts of reasoning, judgment, and social cognition. *Annual Review of Psychology, 59*, 255–278. doi:10.1146/annurev.psych.59.103006.093629
- Farnham, S. D., Greenwald, A. G., & Banaji, M. R. (1999). Implicit self-esteem. In D. Abrams & M. A. Hogg (Eds.), *Social identity and social cognition* (pp. 230–248). Malden, MA: Blackwell.
- Fazio, R. H., Jackson, J. R., Dunton, B. C., & Williams, C. J. (1995). Variability in automatic activation as an unobtrusive measure of racial attitudes: A bona fide pipeline? *Journal of Personality and Social Psychology, 69*, 1013–1027. doi:10.1037/0022-3514.69.6.1013
- Freud, A. (1936). *The ego and the mechanisms of defense*. New York, NY: International Universities Press.
- Freud, S. (1961). Repression. In J. Strachey (Ed. & Trans.), *The standard edition of the complete works of Sigmund Freud* (Vol. 14, pp. 143–160). London, England: Hogarth Press. (Original work published 1915)
- Gagné, M. (2003). The role of autonomy support and autonomy orientation in the engagement of prosocial behavior. *Motivation and Emotion, 27*, 199–223. doi:10.1023/A:1025007614869
- Gorton, D. (2007). The gay republican conundrum. *Gay and Lesbian Review, 14*, 14–15.
- Greenwald, A. G., & Farnham, S. D. (2000). Using the Implicit Association Test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology, 79*, 1022–1038. doi:10.1037/0022-3514.79.6.1022
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association task. *Journal of Personality and Social Psychology, 74*, 1464–1480. doi:10.1037/0022-3514.74.6.1464
- Grolnick, W. S. (2003). *The psychology of parental control: How well-meant parenting backfires*. Mahwah, NJ: Erlbaum.
- Grolnick, W. S. (2009). The role of parents in facilitating autonomous self-regulation for education. *Theory and Research in Education, 7*, 164–173.
- Grolnick, W. S., Deci, E. L., & Ryan, R. M. (1997). Internalization within



- the family: The self-determination theory perspective. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 135–161). New York, NY: Wiley.
- Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology, 81*, 143–154. doi:10.1037/0022-0663.81.2.143
- Grover, V. P., Keel, P. K., & Mitchell, J. P. (2003). Gender differences in implicit weight identity. *International Journal of Eating Disorders, 34*, 125–135. doi:10.1002/eat.10167
- Hunsberger, B. (1995). Religion and prejudice: The role of religious fundamentalism, quest, and right-wing authoritarianism. *Journal of Social Issues, 51*, 113–129. doi:10.1111/j.1540-4560.1995.tb01326.x
- Johnson, H. D., McNair, R., Vojick, A., Congdon, D., Monacelli, J., & Lamont, J. (2006). Categorical and continuous measurement of sex-role orientation: Differences in associations with young adults' reports of well-being. *Social Behavior and Personality, 34*, 59–76. doi:10.2224/sbp.2006.34.1.59
- Joussemet, M., Landry, R., & Koestner, R. (2008). A self-determination theory perspective on parenting. *Canadian Psychology, 49*, 194–200. doi:10.1037/a0012754
- Kanat-Maymon, M., & Assor, A. (2010). Perceived maternal control and responsiveness to distress as predictors of young adults' empathic responses. *Personality and Social Psychology Bulletin, 36*, 33–46. doi:10.1177/0146167209347381
- Kernis, M. H., Cornell, D. P., Sun, C. R., Berry, A. J., & Harlow, T. (1993). There's more to self-esteem than whether it is high or low: The importance of stability of self-esteem. *Journal of Personality and Social Psychology, 65*, 1190–1204. doi:10.1037/0022-3514.65.6.1190
- King, L. A., & Smith, N. G. (2004). Gay and straight possible selves: Goals, identity, well-being and personality development. *Journal of Personality, 72*, 967–994. doi:10.1111/j.0022-3506.2004.00287.x
- Klein, F. (1993). *The bisexual option* (2nd ed.). New York, NY: Haworth Press.
- Klein, F., Sepekoff, B., & Wolf, T. J. (1985). Sexual orientation: A multi-variable dynamic process. *Journal of Homosexuality, 11*, 35–49. doi:10.1300/J082v11n01\_04
- La Guardia, J. G., Ryan, R. M., Couchman, C. E., & Deci, E. L. (2000). Within-person variation in security of attachment: A self-determination theory perspective on attachment, need fulfillment, and well-being. *Journal of Personality and Social Psychology, 79*, 367–384. doi:10.1037/0022-3514.79.3.367
- LaMar, L. A., & Kite, M. E. (1998). Sex differences in attitudes toward gay men and lesbians: A multi-dimensional perspective. *Journal of Sex Research, 35*, 189–196. doi:10.1080/00224499809551932
- Legate, N., Ryan, R. M., & Weinstein, N. (2011). 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*. Advance online publication. doi:10.1177/1948550611411929
- Legault, L., Green-Demers, I., Grant, P., & Chung, J. (2007). On the self-regulation of implicit and explicit prejudice: A self-determination theory perspective. *Personality and Social Psychology Bulletin, 33*, 732–749. doi:10.1177/0146167206298564
- Morokoff, P. J. (1985). Effects of sex guilt, repression, sexual “arousability,” and sexual experience on female sexual arousal during erotica and fantasy. *Journal of Personality and Social Psychology, 49*, 177–187. doi:10.1037/0022-3514.49.1.177
- O'Bryan, M., Fishbein, H. D., & Ritchey, P. N. (2004). Intergenerational transmission of prejudice, sex role stereotyping, and intolerance. *Adolescence, 39*, 407–426.
- Paradise, A. W., & Kernis, M. H. (1999). *Development of the Contingent Self-Esteem Scale*. Unpublished data, University of Georgia.
- Paradise, A. W., & Kernis, M. H. (2002). Self-esteem and psychological well-being: Implications of fragile self-esteem. *Journal of Social and Clinical Psychology, 21*, 345–361. doi:10.1521/jscp.21.4.345.22598
- The Pew Research Center. (2007). *World publics welcome global trade—but not immigration*. Washington, DC: Author.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments & Computers, 36*, 717–731. doi:10.3758/BF03206553
- Rogers, C. R. (1961). *On becoming a person: A therapist's view of psychotherapy*. Boston, MA: Houghton Mifflin.
- Roth, G., Assor, A., Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2009). The emotional and academic consequences of parental conditional regard: Comparing conditional positive regard, conditional negative regard, and autonomy support as parenting practices. *Developmental Psychology, 45*, 1119–1142. doi:10.1037/a0015272
- Rüsch, N., Klaus, L., Götter, I., Hermann, C., Schramm, E., Richter, H., . . . Buhus, M. (2007). Shame and implicit self-concept in women with borderline personality disorder. *The American Journal of Psychiatry, 164*, 500–508. doi:10.1176/appi.ajp.164.3.500
- Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality, 63*, 397–427. doi:10.1111/j.1467-6494.1995.tb00501.x
- Ryan, R. M., & Brown, K. W. (2006). What is optimal self-esteem? The cultivation and consequences of contingent versus true self-esteem as viewed from a self-determination theory perspective. In M. H. Kernis (Ed.), *Self-esteem: Issues and answers* (pp. 125–131). New York, NY: Psychology Press.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68–78. doi:10.1037/0003-066X.55.1.68
- Ryan, R. M., La Guardia, J. G., Solky-Butzel, J., Chirkov, V., & Kim, Y. (2005). On the interpersonal regulation of emotions: Emotional reliance across gender, relationships and cultures. *Personal Relationships, 12*, 145–163. doi:10.1111/j.1350-4126.2005.00106.x
- Savin-Williams, R. C., & Ream, G. L. (2003). Sex variations in the disclosure to parents of same-sex attractions. *Journal of Family Psychology, 17*, 429–438. doi:10.1037/0893-3200.17.3.429
- Schmitt, D. P., & Buss, D. M. (2000). Sexual dimensions of person description: Beyond or subsumed by the Big Five? *Journal of Research in Personality, 34*, 141–177.
- Sell, R. L. (1997). Defining and measuring sexual orientation: A review. *Archives of Sexual Behavior, 26*, 643–658. doi:10.1023/A:1024528427013
- Sell, R. L., Wells, J. A., & Wypij, D. (1995). The prevalence of homosexual behavior and attraction in the United States, the United Kingdom and France: Results of national population-based samples. *Archives of Sexual Behavior, 24*, 235–248. doi:10.1007/BF01541598
- Shedler, J. (2010). The efficacy of psychodynamic psychotherapy. *American Psychologist, 65*, 98–109. doi:10.1037/a0018378
- Sherman, S. J., & Garkin, L. (1980). Attitude bolstering when behavior is inconsistent with central attitudes. *Journal of Experimental Social Psychology, 16*, 388–403. doi:10.1016/0022-1031(80)90030-X
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and non-experimental studies: New procedures and recommendations. *Psychological Methods, 7*, 422–445. doi:10.1037/1082-989X.7.4.422
- Snowden, R. J., Wichter, J., & Gray, N. S. (2008). Implicit and explicit measurement of sexual preference in gay and heterosexual men: A comparison of priming techniques and the implicit association task. *Archives of Sexual Behavior, 37*, 558–565. doi:10.1007/s10508-006-9138-z
- Stones, C. R. (2006). Antigay prejudice among heterosexual males: Right-wing authoritarianism as a stronger predictor than social-dominance orientation and heterosexual identity. *Social Behavior and Personality, 34*, 1137–1150.

- Thrash, T. M., & Elliot, A. J. (2002). Implicit and self-attributed achievement motives: Concordance and predictive validity. *Journal of Personality, 70*, 729–756. doi:10.1111/1467-6494.05022
- Thrash, T. M., Maruskin, L. A., & Martin, C. C. (in press). Implicit-explicit motive congruence. In R. M. Ryan (Ed.), *Oxford handbook of human motivation*. New York, NY: Oxford University Press.
- Uysal, A., Lin, H. L., & Knee, C. R. (2010). The role of need satisfaction in self-concealment and well-being. *Personality and Social Psychology Bulletin, 36*, 187–199. doi:10.1177/0146167209354518
- Weinstein, N., Deci, E. L., & Ryan, R. M. (2011). Motivational determinants of integrating positive and negative past identities. *Journal of Personality and Social Psychology, 100*, 527–544. doi:10.1037/a0022150
- Wright, L. W., Jr., Adams, H. E., & Bernat, J. (1999). Development and validation of the Homophobia Scale. *Journal of Psychopathology and Behavioral Assessment, 21*, 337–347. doi:10.1023/A:1022172816258

Received December 8, 2010

Revision received August 23, 2011

Accepted December 5, 2011 ■

### E-Mail Notification of Your Latest Issue Online!

Would you like to know when the next issue of your favorite APA journal will be available online? This service is now available to you. Sign up at <http://notify.apa.org/> and you will be notified by e-mail when issues of interest to you become available!