DIFFERENTIAL PREDICTORS OF OPPOSITION TO SAME-SEX MARRIAGE AND SEXUAL PREJUDICE

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Abstract

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This study investigated attitudes toward same-sex marriage and its beneficiaries from the frameworks of social dominance orientation (SDO) and political conservatism. Unlike past research that focused mainly on sexual prejudice, the current paper explicitly examined both opposition to same-sex marriage and sexual prejudice. Additionally, the current study explored subcomponents of SDO (i.e., opposition to equality [OEQ] and group-based dominance [GBD]). Study One examined relationships and predictive difference between attitudes toward same-sex marriage and its beneficiaries before California legalized same-sex marriage. Study Two addressed attitudes before and recently after California legalized same-sex marriage. OEQ, GBD, and conservatism predicted opposition to same-sex marriage and predicted sexual prejudice in both Study One and Study Two. Sexual prejudice became less prevalent after same-sex marriage became legal in California, but opposition to same-sex marriage remained unchanged. Despite a general decrease in sexual prejudice, conservatives' sexual prejudice became stronger in Study Two. Findings may assist clinical professionals and social policy makers to reduce future stigma of sexual minorities by understanding nuances contributing to opposition to same-sex marriage and sexual prejudice.

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Introduction

In recent years, attitudes toward same-sex marriage in the United States shifted from predominantly negative to slightly positive. For the first time in U. S. history, a majority favor same-sex marriage in national opinion polls (Pew, 2015). However, a large and outspoken minority still contests same-sex marriage (Whitehead, 2014). Legalization of same-sex marriage and the shift in public opinion highlight the importance of understanding factors contributing to continued opposition to same-sex marriage and discrimination against sexual minorities. “Sexual minorities” and “same-sex marriage beneficiaries” are interchangeable throughout this paper. “Sexual minority” is an umbrella term that can include unmarried and/or married lesbians gay men and bisexuals (LGB), pansexuals, polyamorists, asexuals, and other types of sexuality. Same-sex marriage beneficiaries are a specific subset of sexual minorities. At present, there is little empirical research addressing how various ideologies relate to attitudes toward same-sex marriage, or how attitudes toward sexual minorities may differ from opposition to same-sex marriage. For example, people may be against homosexuality but also believe individuals should not be legally discriminated against because of sexual orientation (Daniels, 2015).

The organization of this paper is as follows: history of same-sex marriage laws in California, factors that relate to attitudes toward same-sex marriage and sexual minorities, and possible differences between opposition to same-sex marriage and sexual prejudice. Sexual prejudice is the preferred term for homophobia (see Herek, 2000). In

this paper, sexual prejudice specifically means negative attitudes toward same-sex marriage beneficiaries. The ideologies examined in relation to opposition to same-sex marriage and sexual prejudice are social dominance orientation (SDO) broken down into subscales: opposition to equality (OEQ) and group-based dominance (GBD), and conservatism. The aim of this study is to explore whether difference exist between opposition to same-sex marriage and sexual prejudice as a function of these ideologies.

History of Same-Sex Marriage Laws in CA

Proponents of same-sex marriage in California have always faced challenges. Although the majority of U. S. citizens now support same-sex marriage, this has not always been the case. Support for same-sex marriage developed slowly. Definitions of "legal marriage" changed regularly over the past 40 years. The Consenting Adult Sex Act of 1975 decriminalized homosexuality in California, then in 1977, the Civil Code 4100 defined marriage as "a personal relation arising out of civil contract, to which the consent of parties capable of making the contract necessary (West, 1977, pp. 3314)." This definition was unclear and ambiguous, but it dropped sex specific language. Same-sex couples took advantage of this ambiguous definition and attempted to obtain marriage licenses from county clerks, which prompted a 1977 statutory revision clarifying that marriage is a personal relation arising out of a civil contract between a man and a woman.

No one took legal arguments seriously that challenged the definition of marriage, or framed same-sex marriage as a civil right, until the early 1990s. Before 1993, the LGBTQ+ community did not focus on same-sex marriage as a civil right. Instead, the

community focused on issues such as safety, job security, and decriminalizing homosexuality. Hawaii was the first state to legally challenge the inherent heterosexism in the institution of marriage when the Hawaii Supreme Court argued that denying same-sex couples the right to marry violated its state Constitution (Broaddus, 2000).

Domestic partnership and civil union arguments were taking place during the same time, as well as in the 80s, but they did not challenge the definition of "marriage" and did not frame "same-sex marriage" as a civil right. Instead, domestic partnership and civil unions arguments took the "separate but equal approach." This may have advanced the issue of civil rights for sexual minorities by creating dialogue about legal recognition for same-sex relationships, but it derailed marriage equality because domestic partnerships and civil unions only granted state rights within states with established protections for sexual minorities, and denied same-sex couples over 1,500 federal rights afforded to opposite-sex married couples. Additionally, if a same-sex couple traveled to a state that did not recognize domestic partnerships or civil unions their state rights were null. Even hospitals could deny a same-sex partner visitation rights if not "married" and not classified as a "spouse" within certain states, since domestic partnerships and civil unions did not classify partners as spouses (see Blumberg, 2003).

Fears that state bills were not strong enough to keep same-sex couples from marrying prompted the passage of the federal Defense of Marriage Act (DOMA) on September 21, 1996. Section 3 of DOMA defined marriage as an exclusively heterosexual union between one man and one woman. In 1999, two-thirds of U.S. citizens opposed same-sex marriage (Newport, 1999). In 2000, California passed the

voter initiative Proposition 22 by a 61.4% majority (California Secretary of State, 2000). This proposition explicitly defined the union of a man and a woman as the only recognizable form of marriage. Proponents of Proposition 22 argued the initiative "protects" marriage and provided "simplicity and clarity" to the definition of marriage in California. Opponents of the proposition proclaimed the initiative oppressive and discriminatory. Approximately 7.5 million Californians voted on Proposition 22 with 4,618,673 voting "yes" and 2,909,370 voting "no" (Hubins, 2001). Proposition 22 also appears to have driven increased voter turnout with nearly 1.5 million more votes cast than in the state's 1996 presidential primary.

In the 2004 presidential election, ten states had same-sex marriage propositions on their ballots (Campbell & Monson, 2008). All but one of these states voted to ban same-sex marriage. However, during that year, the Massachusetts Supreme Court ruled that exclusive marriage between a man and a woman violated its state constitution, making it the first state to formally recognize same-sex marriage (McKinley & Goodstein, 2008). Following Massachusetts' lead, in 2008 the California Supreme Court ruled that limiting marriage exclusively to one man and one woman violated the guarantee of equal protection assured in the California Constitution (In Re Marriage Cases, 2008). After this Supreme Court ruling, many same-sex couples in California married. The California Supreme Court invalidated Proposition 22; however, nearly six months later on November 4, 2008, California voters passed Proposition 8. Proposition 8 upheld Section 3 of DOMA and halted same-sex marriage in the state. Forty-one of 58 counties in

California supported Proposition 8 and it passed by a 52.3% majority (California Secretary of State, 2008).

Two years later, a U. S. Federal District Court (*Perry v. Schwarzenegger,* 2010) ruled Proposition 8 unconstitutional. In 2012, the U. S. Court of Appeals, Ninth Circuit, upheld that Proposition 8 violated the Equal Protection Clause of the U. S. Constitution (*Perry v. Brown,* 2012). Finally, on June 26, 2013, the Supreme Court ruled that the originators and petitioners of Proposition 8 did not have legal grounds for suing the state (*Hollingsworth v. Perry,* 2013), and struck down Section 3 of DOMA as being unconstitutional (*United States v. Windsor, 2013*). California immediately lifted its ban on same-sex marriage following these rulings and started issuing marriage licenses to same-sex couples on June 28, 2013. On June 26, 2015, the court case *Obergefell v. Hodges, (2015)* struck down the remaining state-level same-sex marriage bans, requiring all states to recognize same-sex marriage. Since the defeat of Proposition 8, support for same-sex marriage increased in both California and the United States overall. In 2015, Californians' support for same-sex marriage was 5% greater than the national average (Daniels, 2015). The next section reviews the scientific literature on opposition to same-sex marriage and sexual prejudice and ideologies differentially related to both.

Literature Review

This section explores how social dominance orientation (SDO) (i.e., opposition to equality [OEQ] and group-based dominance [GBD]) and conservatism relate to attitudes

toward sexual minorities and same-sex marriage. Each section provides definitions for each ideology, states the theory behind each ideology, and examines specific relationships each ideology share with attitudes toward sexual minorities and same-sex marriage. Additionally, the sections in this chapter support the idea that each ideology or mechanism may relate differently to attitudes toward same-sex marriage beneficiaries and attitudes toward same-sex marriage. Examining these ideologies' and mechanisms relationship with attitudes toward sexual minorities and same-sex marriage is important in reducing sexual prejudice and discrimination (Webb & Chonody, 2014), promoting equity for sexual minorities, and informing social institutions, psychologists, and policymakers to promote social justice (Goodman et al., 2004; Goodman & Moradi, 2008).

Most researchers examine attitudes about same-sex marriage as part of more general study of attitudes toward gay men and lesbians (Cluse-Tolar et al., 2005; Jenkins, Lambert, & Baker, 2007), relationship rights for same-sex couples (Swank & Raiz, 2010), or gay rights (Raiz, 2006). However, minimal studies explore both attitudes toward same-sex marriage and attitudes toward its beneficiaries in a single study. The current study uniquely examines heterosexual college students' attitudes toward same-sex marriage and its beneficiaries. Young adults exhibit the strongest support for same-sex marriage of any age group (Jones, 2013). College students often formulate opinions about controversial social issues during college and college experiences can shape attitudes on LGBTQ+ rights issues (Ohlander et al., 2005). Additionally, college students vote at a greater rate than their less educated peers (Highton & Wolfinger, 2001), so information

on this demographic may assist advocates for LGBTQ+ rights and same-sex marriage laws by better understanding attitudes within this privileged group (Woodford, Chonody, Scherrer, Silverschanz, & Kulick, 2011). The following sections explore privileged groups attitudes toward sexual minorities from multiple ideological frameworks and mechanisms.

Social Dominance Orientation

There are multiple definitions of social dominance orientation (SDO). The framework of SDO encompasses elements of both group-based dominance and general anti-egalitarianism. Therefore, some definitions of SDO include the need to establish a position of dominance for the in-group against out-groups (e.g., Pratto, Sidanius, Stallworth, & Malle, 1994: Sidanius, 1993), whereas other definitions equate SDO with a preference for unequal social relations (e.g., Sidanius, Pratto, & Rabinowitz, 1994). In essence, SDO refers to the extent that an individual endorses group-based dominance and anti-egalitarianism. Discrimination and group-based social hierarchies across levels of a society allow dominant groups to exert power over subordinate groups by legitimizing myths. The pervasive presence of group-based prejudice and oppression prompted researchers to develop a unidimensional measure of SDO (Sidanius & Pratto, 1993). SDO is a general attitudinal orientation toward intergroup relations that explains attitudes along a superior-inferior dimension. It is a measurement of whether an individual prefers intergroup relations to be hierarchical or equal (Pratto, et al., 1994),

and is a theoretical tool for the larger social dominance theory (Pratto, Sidanius, & Levin, 2006).

SDO stems from social dominance theory, which posits that human societies are systems. Societal processes (e.g., institutions, individuals, and collaborative intergroup processes) work together to produce systemic effects. Group-based hierarchical institutions fluctuate across societies and within the same society over time, and exist universally in all human societies (Tilly, 1998). Though some researchers conceive of SDO as a personality theory, it varies situationally and contextually. Thus, contemporary constructions of SDO frame it as context dependent and not a personality variable. SDO relates specifically to societal systems and encompasses pro-status quo beliefs. For example, higher levels of SDO in high status individuals are partially situational. SDO weakens when in-groups make upward comparisons or when a dominant group loses social status (Pratto et al., 2006).

Social dominance theory maintains that all societies contain three qualitatively discrete systems of group-based hierarchy (i.e., an age system, a gender system, and an arbitrary-set system). An age system affords more social power to adults than children. A gender system typically affords more social power to men over women. An arbitrary-set varies and includes factors such as nationality, race, ethnicity, sexual orientation, gender identity, class, and religion (Pratto et al., 1994).

An arbitrary-set system affords differential access to resources of positive and negative social value. For example, dominant social groups experience a disproportionate amount of positive social value (e.g., wealth, political power, protection by force,

adequate food, access to education, healthcare, and decent housing). Subordinate groups experience a disproportional amount of negative social value (e.g., stigmatization, vilification, substandard housing, disease, underemployment, unsafe and unpleasant work, and disparate punishment). Total annihilation of a group happens only in arbitrary-set systems. For example, there are cases in which one ethnic group massacred and completely eradicated another ethnic group, but there are no known cases in which adults executed all the children, or men murdered all the women in a society (Pratto, et al., 1994). This suggests that the most extreme forms of discrimination occur in arbitrary-set systems.

Legitimizing myths are ideologies that encourage or preserve group-based inequality and legitimize discrimination. These ideologies and myths successfully maintain oppression within a society because people commonly recognize them as consensually held opinions, attitudes, values, beliefs, stereotypes, and cultural ideologies. These myths facilitate the stabilization of oppression by normalizing group-based inequality, shaping individuals' decisions and behaviors, constructing the formation of new social practices, and structuring the procedures of institutions (Pratto, Sidanius, & Levin, 2006).

Hierarchy-enhancing legitimizing myths (e.g., racism, sexism, heterosexism, and stereotypes) afford moral and intellectual justification for group-based inequality. High SDO individuals use hierarchy-enhancing legitimizing myths to argue that inequality is moral, natural, fair, and legitimate (Pratto et al., 2006). For example, heterosexuals sometimes use moral arguments to justify discrimination against sexual minorities. One

common moral argument states that only sex between a man and woman is natural because only a man and a woman can procreate. Another moral argument states that permitting couples of the same sex to marry will lead to bestiality. These myths help legitimize heterosexuals' dominance over sexual minorities by unjustly stigmatizing sexual-minorities as perverse. They claim that only sex with the opposite-sex is natural, and variations from the norm result in obscene sexual acts with animals.

Concerning sexual minorities, higher SDO relates to greater sexual prejudice (e.g., donations to organizations opposed to gay rights; Sidanius & Pratto, 1999). Social dominance theory posits that prejudice and discrimination by heterosexuals against sexual minorities happens because of group differences in power (Sidanius, Pratto, Van Laar, & Levin, 2004). For example, heterosexuals may experience a disproportionate amount of wealth, political power, and access to healthcare (Pratto et al., 2006). These power differences enable heterosexuals to believe they are superior to sexual minorities. In other words, changes to the social status of sexual minorities moderate the relationship between SDO and sexual prejudice. Perception of relative group status legitimizes discrimination and upholds social inequality against sexual minorities because individuals with higher SDO perceive status gains as threatening and take defensive measures to protect their superior group status. Heterosexuals impose their will on sexual minorities with minimal resistance because heterosexuals outnumber sexual minorities (Bahns & Crandall, 2013).

Concerning same-sex marriage, this perceived threat to group position may not only contribute to justifying prejudice and discrimination against sexual minorities, it

may also promote opposition to same-sex marriage (Pereira, Vala, & Costa-Lopes, 2010). When high SDO individuals perceive threats to their group position, they are more likely to support discriminatory policies to legitimize existing status gaps (Pratto, et al., 2006; Pratto, Stallworth, & Conway-Lanz, 1998). Groups maintain status hierarchies because high status group members act to defend their group's position by supporting discriminatory policies (e.g., banning same-sex marriage), and lower status groups internalize oppression. When heterosexuals with high SDO see sexual minorities gaining social influence and rights (e.g., same-sex marriage rights) they may try to legitimize discrimination partly because the status gains disrupt the system of social inequality they see as just and fair (Jost & Major, 2001; Sidanius et al., 2004).

Legalizing same sex-marriage in California may have impacted the status gap between heterosexuals and sexual minorities. The gains in rights promoted greater equality between heterosexuals and sexual minorities and may have contributed to high SDO individuals feeling increased threat from sexual minorities (Duckitt & Sibley, 2010). These feelings of threat in turn legitimize their opposition to LGBTQ+ rights. Since discrimination against same-sex couples may only occur as a way to defend the legitimacy of heterosexuals' dominant position when same-sex couples make status gains (Bahns & Crandall, 2013; Pratto & Shih, 2000), legalizing same sex marriage may have increased bias against sexual-minorities and opposition to same-sex marriage by threatening heterosexuals' relative group position (Pratto, et al., 2006).

Supporting this contention, one study manipulated social context by randomly assigning participants into a faith-based condition and a same-sex marriage condition. In

the same-sex marriage condition, participants read a paragraph about how same-sex partners benefited from greater equality by recently acquiring more legal recognition. In this condition, heterosexism related strongly to SDO (r = .90) but the relationship between SDO and heterosexism was virtually non-existent in the faith-based condition where sexual orientation was not salient (Lehmiller & Schmitt, 2007). Because SDO is context-dependent, sexual prejudice may have increased from individuals with high SDO after California legalized same-sex marriage, while simultaneously decreasing in the overall general U.S. population.

The relationship between SDO, opposition to same-sex marriage, and increased sexual prejudice and discrimination is complex (Sidanius & Pratto, 1999). In the past, most social policies ensured power imbalances between heterosexuals and sexual minorities by denying rights to sexual minorities (e.g., to marry, adopt children, serve openly in the military; Herek, 2007). However, it is currently unclear what happens when same-sex marriage becomes a legal reality in the U.S. and not just a threat. Individuals high in SDO may lash out against sexual minorities, motivated by a desire to maintain the past hierarchical structure. Multiple studies and a meta-analysis show that SDO relates to negative attitudes toward sexual minorities (Whitley & Lee, 2000), but its relationship with opposition to same-sex marriage is less understood, and there is no current research that addresses whether SDO's subcomponents (opposition to equality [OEQ] and group-based dominance [GBD]) differentially predict opposition to same-sex marriage and sexual prejudice.

As described thus far, most of the empirical and theoretical research on SDO uses a unidimensional measure. However, the framework of SDO is context dependent and contains elements of both group-based dominance and general anti-egalitarianism, which prompted researchers to begin examining the construct as two distinct ideologies or mechanisms (see Jost & Thompson, 1999). The unidimensional measure of SDO is highly reliable and predicts many beliefs and attitudes associated with prejudice, hierarchy, and inequality, and consistently shows high reliability alphas (Sidanius, Pratto, van Laar, & Levin, 2004). In fact, SDO is one of the most widely used individual difference measures in the study of generalized prejudice (Sidanius & Pratto, 1999). However, in recent years the original authors of SDO created and validated a new two-factor measure of SDO. They created the measure after other researchers suggested that examining SDO as a unidimensional construct did not reveal the existing nuances in ideological differences of low status individuals. In multiple studies, factor analysis revealed a two-factor model of SDO worked just as well as the unidimensional measure (see Jost & Thompson, 2000; Kugler et al., 2010; Li, Wang, Shi, & Shi, 2006). Therefore, the creators of SDO produced a new conceptualization and measurement of social dominance orientation that takes into account individual differences in the preference for group based hierarchy and inequality (see Ho et al., 2015).

Ho and colleagues (2015) theoretically grounded the two sub-components of SDO (i.e., SDO-Egalitarianism [SDO-E] and SDO-Dominance [SDO-D]) as distinct ideologies using confirmatory factor, criterion validity analyses, and analyses comparing semi-partial correlations (for details on methodology see Ho et al., 2015). They concluded that

SDO-E represents a preference for systems of group-based inequality that more subtlety promote hierarchy-enhancing ideologies and social policies, whereas SDO-D represents a preference for systems of group-based dominance in which high status groups overtly oppress lower status groups. SDO-E and SDO-D are disparate in predicting intergroup outcomes (Ho et al., 2015; Ho et al., 2012). SDO-E predicted better than SDO-D support for ideologies that subtly justify inequality, opposition to egalitarian social policies, and political conservatism in the U.S. SDO-D predicted better than SDO-E endorsement of beliefs that would justify oppression, support for aggressive behaviors directed toward subordinate groups, and a strong focus on group competition and threat (Ho et al., 2015). These outcomes are in-line with other researcher's conception as SDO as a two-factor model consisting of opposition to equality (OEQ) and group-based dominance (GBD; Jost & Thompson, 2000; Kugler et al., 2010). Because the two-factor model provides more nuance than unidimensional model, and the subscales of SDO differentially predict intergroup outcomes, this study utilized the two-factor model to see if the SDO sub-dimensions differentially predict opposition to same-sex marriage and sexual prejudice.

Opposition to Equality

As touched on in the previous section, theoretically, opposition to equality (OEQ) or SDO-E may develop out of system justification motives and aversion to overturning the current social order. System justification theory (Jost & Banaji, 1994; Jost, Banaji, & Nosek, 2004) proposes that low status individuals (e.g., low income, LGBTQ+, and people of color) that defend the social order against their own interest experience a

psychological cost for doing so. For example, Blacks who oppose equality and accept the existing status quo tend to have lower self-esteem and increased neuroticism. Contrariwise, for European Americans, higher OEQ relates to higher self-esteem because it justifies their privileged status. OEQ primarily relates to beliefs and views concerning proper societal structure and the degree of sympathy that low status individuals deserve. In essence, OEQ spearheads low status group members' pro-status-quo sentiment. As such, OEQ relates negatively to empathy, universalism, and resistance to overturning the social order. OEQ also relates to lack of humanitarian concern for disadvantaged groups, a greater need to engage in system justification, less support for redistributive policies, implicit and explicit attitudes toward the wealthy, and political conservatism (Kugler et al., 2010).

Group-Based Dominance

Theoretically, group-based dominance (GBD) or SDO-D may stem from social identity motives such as a desire for in-group advancement and outgroup derogation (i.e., group justification). GBD is exclusive to inequalities that have consequences for one's in-group and relates to aggressively promoting hierarchy. GBD drives the group-level dominance component of SDO and is likely the influence behind widespread hostile prejudice (Altemeyer, 1996; Kugler et al., 2010). This is evidenced by GBD's relationship with right-wing authoritarianism (Altemeyer, 1996; Sibley & Duckitt, 2008). In essence, GBD governs in-group promotion and bias in response to group-level threat. For example, GBD relates to valuing national security (Caricati, 2007). A belief that the

world is a competitive place underlies GBD. Therefore, GBD relates to individual differences in prejudice toward out-groups such as ethnocentrism, hostile competition, and the inclination to use stereotypes (Kugler et al., 2010). Additionally, GBD relates to beliefs about power and hierarchy (Guimond et al., 2007) and negative attitudes toward women and sexual minorities (Eagly, Diekman, Johannesen-Schmidt & Koenig, 2004).

OEQ and GBD as Differential Predictors

OEQ and GBD positively correlate; however, they are distinct ideologies subject to different social pressures, driven by different motives, and they differentially predict attitudinal preferences**.** For example, GBD relates more strongly than OEQ to promotion of hierarchies, whereas OEQ relates more strongly than GBD to passive acceptance of the status quo and refusal to actively assist the disadvantaged (Jost & Thompson, 2000). Additionally, OEQ predicts support for affirmative action for women and minorities better than GBD because privileged individuals' opposition to redistributive policies likely stems more from system justification than social identity or group justification (Jost & Thompson, 2000; Kugler et al., 2010). Conversely, ethnocentrism relates more strongly to GBD than OEQ, consistent with social identity and group justification (Jost & Thompson, 2000).

The relationships between OEQ, GBD, and opposition to same-sex marriage and sexual prejudice are less understood. As mentioned previously, few studies examine subcomponents of SDO, and even fewer studies examine OEQ and GBD in terms of how they differentially predict social policy attitudes and/or sexual prejudice. Some studies

include OEQ when assessing system-justifying tendencies, but omit GBD (see O'Brien & Major, 2005; Reyna, Henry, Korfmacher, & Tucker, 2006). OEQ and GBD should relate to both opposition to same-sex marriage and sexual prejudice consistent with the unidimensional measure of SDO. However, the SDO subcomponents should differentially predict opposition to same-sex marriage and sexual prejudice.

Past research established that OEQ may be a system justification construct and GBD may be a group justification social identity construct. From these theories, it logically follows that OEQ should relate more strongly to opposition to same-sex marriage than sexual prejudice because same-sex marriage is a redistributive policy that affords greater status to sexual minorities. Additionally, GBD should relate more strongly to sexual prejudice than opposition to same-sex marriage because it specifically targets sexual minorities as an outgroup to dominate, not just a policy to oppose. One way to look at it is OEQ relates to the harm of omission (i.e., apathy toward helping low status individuals) whereas GBD relates to harm of commission (i.e., actively suppressing out-groups). OEQ might emerge as a stronger predictor of out-group attitudes (in this case sexual prejudice) if the out-group made gains that challenged the status quo (e.g., same-sex marriage becoming legal; Kugler et al., 2010). This may also be the case with conservatism. Therefore, the next section focuses on political conservatism.

Conservatism

In addition to OEQ and GBD, conservatism relates to beliefs about sexual minorities and same-sex policies. Interestingly, empirically OEQ is closer to political

conservatism than SDO as a unidimensional measure. Because accepting hierarchy relates to conservative political ideology (Pratto et al., 1994), theoretically some researchers frame SDO as an underlying component of political conservatism (Kugler et al., 2010). For example, a meta-analysis found that conservatism predicts many of the same variables as SDO, including, but not limited to, perception of a dangerous world, attention to danger and threat, and inflexibility (Jost, Glaser, Kruglanski, & Sulloway, 2003).

Within the political ideology liberalism-conservatism platform, conservative individuals report more sexual prejudice than liberal individuals (Barth & Parry, 2009). Conservatives lean more toward the Republican Party while liberals lean more toward the Democratic Party. Counties that support the Republican Party tend to oppose LGBTQ+ rights because of the platform's conservative anti-LGBTQ+ position and traditional family values, whereas counties that support the Democratic Party tend to support LGBTQ+ rights because of its platform's liberal focus on civil rights (Salka & Burnett, 2011).

Concerning attitudes toward sexual minorities, the U.S. political discourse typically frames sexual minority issues as moral in nature (Lewis, 2005). Many conservatives tend to reject homosexuality because they view it as sinful or immoral behavior based on choice. In turn, many liberals tend to accept homosexuality as a characteristic of individual identity outside of an individual's control (Cahn & Carbone, 2010; Haider-Markel & Joslyn, 2008; Jayartne et al., 2006). Many conservative individuals believe that only heterosexuality is natural and innate. The belief that genetics

cause sexual orientation relates to less sexual prejudice, whereas the belief that people choose their sexual orientation relates to more sexual prejudice (Haslam & Levy, 2006; Malcomnson et al., 2006).

Conservativism predicts both opposition to same-sex marriage and sexual prejudice. Republicans and conservatives generally oppose same-sex marriage, while democrats and liberals tend to support same-sex marriage (Barth et al., 2009; Becker, 2012; Becker & Scheufele, 2009; Haider-et al., 2008; Poteat & Mereish 2012). Moreover, conservatives are less likely than liberals to report becoming more accepting of same-sex relationships since age 18 (Lewis & Gossett, 2008).

Over the years, both liberals and conservatives have tended to accept same-sex marriage more than they did in the past. However, liberals' support is growing faster than conservatives' support, and conservatives' attitudes have remained dominantly negative. More than double the number of liberals (85%) than conservatives (41%) supported same sex marriage in 2017 (Pew, 2017). While the literature exemplifies a growing gap between conservatives' and liberals' attitudes toward same-sex marriage, it is unclear if the gap extends to sexual prejudice to the same extent. Much of the current literature on conservatives' attitudes toward same-sex marriage comes from public opinion polls and extreme conservatism (e.g., right wing authoritarianism). It is challenging to make comparisons between conservatives' sexual prejudice and their opposition to same-sex marriage because no studies examine conservatism as a differential predictor of sexual prejudice and opposition to same-sex marriage. The current study has the unique ability

to test whether conservatism differentially predicts sexual prejudice and opposition to same-sex marriage. The next section explores this in greater detail.

Statement of the Problem

Individuals rely on different ideologies to justify their attitudes toward sexual minorities and same-sex policies. Thus, the current analysis of multiple ideologies (i.e., opposition to equality [OEQ], group-based dominance [GBD], and conservatism) is valuable to test the extent to which each contribute to increased bias toward sexual minorities and continued opposition to same-sex marriage. Although there is considerable research addressing predictors of attitudes toward sexual minorities, little is known empirically about attitudes toward same-sex marriage and its beneficiaries. Even less is known about how social dominance orientation (SDO) subscales may differentially predict these types of attitudes. The primary focus in the current literature on general attitudes toward sexual minorities, opposed to specific issues such as same-sex marriage, misses valuable information relevant to the experiences of sexual minorities.

Previous studies that examined attitudes toward sexual minorities and same-sex marriage are limited because until recently same-sex marriage was not legal in the U.S. The present work uniquely addresses effects both before and after California legalized same-sex marriage. Additionally, past research did not directly examine differences between predictors of attitudes toward sexual minorities (i.e., same-sex marriage beneficiaries) and same-sex marriage in a single study. Dissimilar methodology makes comparisons across studies challenging and unclear. OEQ, GBD, and conservative political ideology, may relate differently to attitudes toward same-sex marriage versus attitudes toward same-sex marriage beneficiaries.

In a series of two studies, I address attitudes toward same-sex marriage and its beneficiaries from the frameworks of social dominance orientation (i.e., OEQ and GBD), and conservatism. The first study focuses on OEQ, GBD, and conservatism as predictors of attitudes toward same-sex marriage and its beneficiaries and differences between same-sex marriage and same-sex marriage beneficiaries before California legalized same-sex marriage. The second study focuses on OEQ, GBD, and conservative political ideology, and possible differences between attitudes toward same-sex marriage and its beneficiaries before and after same-sex marriage became legal in California.

Study One

Hypothesis 1. Opposition to equality (OEQ) predicts opposition to same-sex marriage and predicts sexual prejudice.

Rationale. Opposition to equality predicts opposition to same-sex marriage and predicts sexual prejudice (see van Der Toorn et al., 2017).

Hypothesis 2. Group-based dominance (GBD) predicts opposition to same-sex marriage and predicts sexual prejudice.

Rationale. SDO was intended to be a group-based dominance construct. SDO as a unidimensional construct relates to opposition to same-sex marriage and sexual prejudice. Therefore, the SDO subcomponent GBD should also relate to both types of attitudes.

Hypothesis 3. Conservatism predicts opposition to same-sex marriage and predicts sexual prejudice.

Rationale. Conservatives generally tend to oppose same-sex marriage and report negative attitudes toward sexual minorities, while liberals tend to support same-sex marriage and report positive attitudes toward sexual minorities (Barth et al., 2009; Becker, 2012; Becker & Scheufele, 2009; Poteat & Mereish, 2012).

Hypothesis 4. Opposition to equality relates more strongly to opposition to same-sex marriage than group-based dominance does.

Rationale. If OEQ stems from system justification motives, it should relate to opposition to same-sex marriage more strongly than it relates to sexual prejudice (Jost & Thompson, 2000; Kugler et al., 2010).

Hypothesis 5. Group-based dominance relates more strongly to sexual prejudice than opposition to equality does.

Rationale. If GBD stems from social identity motives (i.e., group justification), it should share a stronger relationship with sexual prejudice than opposition to same-sex marriage (Jost & Thompson, 2000; Kugler et al., 2010).

Study Two

Study Two is a replication of Study One. All the Hypotheses for Study Two are the same as Study One with the addition of one research question (stated below). Furthermore, the two studies differ because same-sex marriage was not yet legal when we collected data for Study One. It became legal during Study Two.

Research Question 1. Was opposition to same-sex marriage and sexual prejudice less prevalent after California legalized same-sex marriage?

Rationale. There is a current overall trend in the U.S. of increased support for sexual minorities. Therefore, overall opposition to same-sex marriage and sexual prejudice may decrease after same-sex marriage became legal (Pew, 2015).

Methods

Participants

We collected data from 809 participants over seven years. Study One consisted of 392 participants (355 identified as heterosexual) and Study Two consisted of 417 participants (367 identified as heterosexual). Study One included measures of SDO (i.e., OEQ and GBD) and political ideology. Participants in Study One tended to be young (mean age = 20), female (65.4%), white (66.5%), and middle of the road (38.2%), liberal (31.2%) or very liberal (12.7%). Only 17.8% identified as conservative or very conservative. Participants in Study Two tended to be young (mean age = 20) female (68.9%), white (47.0%), middle of the road (40.3%), liberal (38.9%), or very liberal (12.8%). Only 8.1% identified as conservative or very conservative. I did not include participants who identified as gay, lesbian, or bisexual (LGB) in analyses. Study One excluded 37 LGB, leaving 355 heterosexual students and Study Two excluded 50 LGB, leaving 367 heterosexual students. Table 1 presents demographic information.

Table 1

Student Demographics for Both Studies

Demographics	Study One	Study Two
Sex		
Female	65.4%	68.9%
Male	34.6%	31.1%
Race		
White	66.5%	47.0%
African American	4.8%	7.2%
Hispanic/Latino	13.8%	26.0%
Asian	4.2%	2.5%
Native American	0.8%	0.3%
Multiracial	6.8%	13.8%
Other	3.1%	3.3%
Political Party		
Democrat	43.7%	55.0%
Republican	18.4%	11.7%
Green	4.1%	3.8%
Independent	18.7%	16.4%
Other	15.2%	13.2%

*Note: N*s = 355, 367.

Measures

Study One included five measures designed to evaluate predictors of attitudes toward same-sex marriage and same-sex marriage beneficiaries. Specifically, the questionnaires assessed opposition to equality, group-based dominance, political ideology, attitudes toward same-sex marriage, and attitudes toward same-sex marriage beneficiaries. Study Two used the same measures as Study One.

Opposition to same-sex marriage. The attitudes toward same-sex marriage measure consists of 12-items with a Cronbach $\alpha = .91$ for Study One and Cronbach $\alpha = .96$ for Study Two. We adapted the scale from previous research on attitudes toward affirmative action (Renfro et al., 2006). Item measurements ranged from 0 (strongly disagree) to 9 (strongly agree) with higher scores indicating more negative attitudes toward same-sex marriage. Sample questions from the 12-item scale include, "I am extremely supportive of same-sex marriage," "I support a federal policy to legalize same-sex marriage," and "Same-sex marriage should be ended as soon as possible."

Sexual prejudice toward beneficiaries of same-sex marriage. The attitudes toward same-sex marriage beneficiaries measure consists of 12-items with a Cronbach $\alpha = .93$ found in Study One, and Cronbach $\alpha = .88$ found in Study Two. We adapted the scale from previous research on attitudes toward beneficiaries of affirmative action (Renfro et al., 2006). Item measurements ranged from 0 (not at all) to 9 (extreme) on items such as "dislike, admiration, hostility, attraction, resentment, appreciation, disdain, respect, hatred, friendliness, repulsion and warmth." Sample questions from the 12-item

scale include, “no dislike-extreme dislike,” and “no admiration-extreme admiration.” Higher scores indicate more negative attitudes toward same-sex marriage beneficiaries.

Social Dominance Orientation (SDO). The social dominance orientation measure consists of 15-items with a Cronbach α = .90 found in Study One and Cronbach α = .86 found in Study Two. Item measurements ranged from 0 (strongly disagree) to 9 (strongly agree) with higher scores indicating greater social dominance orientation. Sample questions from the 15-item scale include, "To get ahead in life, it is sometimes necessary to step on other groups,” “We should strive to make incomes as equal as possible,” and “It's probably a good thing that certain groups are at the top and other groups are at the bottom.”

Opposition to Equality (OEQ). The SDO subscale opposition to equality measure consisted of 7-items with a Cronbach α = .85 found in Study One and Cronbach α = .79 found in Study Two. Items included “We should strive to make incomes as equal as possible,” “it would be good if groups could be equal,” “all groups should be given an equal chance in life,” “we would have fewer problems if we treated people more equally,” “group equality should be our ideal,” “we should do what we can to equalize conditions for different groups,” and “no one group should dominate in society.”

Group-Based Dominance (GBD). The SDO subscale group-based dominance measure consisted of 8-items with a Cronbach α = .88 found in Study One and Cronbach α = .84 found in Study Two. Items included “in getting what you want, it is sometimes necessary to use force against other groups,” “to get ahead in life, it is sometimes necessary to step on other groups”, “it's probably a good thing that certain groups are at

the top and other groups are at the bottom," "sometimes other groups must be kept in their place," "it's OK if some groups have more of a chance in life than others," "if certain groups stayed in their place, we would have fewer problems," "inferior groups should stay in their place," and "some groups of people are simply inferior to other groups." The measure was identical to Jost and Thompson's measure except for one item. The item "It's OK if some groups have more of a chance in life than others" was worded as "Superior groups should dominate inferior groups" in Jost and Thompson's measure (see Appendix E).

Conservatism. The political ideology measure consists of one item that asked "how would you describe your political ideology?" Responses ranged from 1 (very conservative), 2 (conservative), 3 (middle of the road), 4 (liberal), 5 (very liberal). Therefore, lower numbers represent greater levels of conservatism.

Procedure

Participants signed-up to take this study through the student participation pool at Humboldt State University to fulfill research requirements or to earn extra credit. Students had to be at least 18 years old to participate in both studies. Participants filled out self-report questionnaires in a laboratory setting. Each participant received a questionnaire comprised of demographic information and the measures described earlier (see Appendices). The questionnaires took approximately 30 minutes to complete. Participation in both studies was voluntary. Participants' responses were anonymous and confidential, and participants could discontinue the study at any time without penalty.

Results

This section presents results for Study One and Study Two. In both studies, multiple regression analyses assessed how well OEQ, GBD, and conservatism predicted opposition to same-sex marriage and sexual prejudice. Analyses to detect differences between dependent coefficients assessed if some predictors were stronger than other predictors within the same regression model. Confidence interval analyses to detect differences between independent coefficients assessed if a predictor in Study One was a stronger predictor than the same predictor in Study Two. Confidence interval analyses comparing two independent R^2 values assessed if regression models for opposition to same-sex marriage differed from regression models for sexual prejudice. For details on all confidence interval methods (see Aberson, 2009). See Appendix F through Appendix S for syntax.

Study One

Prior to running analyses, I replaced missing values using multiple imputation and transformed variables that violated skew and kurtosis assumptions. For Study One, there were eight missing values for the social dominance orientation (SDO) scale, three for the conservatism scale, six for the sexual prejudice scale, and two for the opposition to same-sex marriage scale. Log transformations fixed skew for opposition to equality (OEQ) and opposition to same-sex marriage. Square root transformations fixed skew for group-based dominance (GBD) and sexual prejudice. After transforming data, all regression residuals

appeared to be linear. There was no problem with heteroscedasticity. There were no outliers and no problems with multicollinearity. Table 2 presents correlations and descriptive statistics.

To test Hypotheses 1-3, I used two multiple regression analyses. One for the opposition to same-sex marriage model and one for the sexual prejudice model. Table 3 presents multiple regression analyses predicting opposition to same-sex marriage and sexual prejudice toward same-sex marriage beneficiaries. Consistent with Hypothesis 1, greater opposition to equality was related to opposition to same-sex marriage and to sexual prejudice. Consistent with Hypothesis 2, higher group-based dominance was related to opposition to same-sex marriage and to sexual prejudice. Consistent with Hypothesis 3, conservatism was related to opposition to same-sex marriage and to sexual prejudice.

To test Hypotheses 4-5, I used analyses to detect significant differences between coefficients with the MASS package (Venables & Ripley, 2002). Contrary to Hypothesis 4, there was no difference between opposition to equality ($b^* = .34$) and group-based dominance ($b^* = .26$) when predicting opposition to same-sex marriage $t(354) = 1.22$, $p = .22$. Contrary to Hypothesis 5, there was no difference between group-based dominance ($b^* = .29$) and opposition to equality ($b^* = .28$) when predicting sexual prejudice $t(354) = 0.22$, $p = .83$.

Table 2

Correlations and untransformed means and standard deviations.

Variable	1	2	3	4	*M*	*SD*
Study One						
1. Opposition to SSM					2.72	2.08
2. Sexual Prejudice	.79*				2.53	1.71
3. OEQ	.61*	.55*			1.95	1.75
4. GBD	.56*	.54*	.54*		2.52	1.84
5. Conservatism	.57*	.50*	.41*	.35*	3.37	0.96

Note: $p < .001$, $n = 355$

Table 3

Multiple Regression Analyses Predicting Opposition to Same-Sex Marriage and Sexual Prejudice Toward Same-Sex Marriage Beneficiaries.

	Opposition to Same-Sex Marriage		*Sexual Prejudice toward Same-Sex Marriage Beneficiaries*	
Variable	*b**	sr^2	*b**	sr^2
Study One				
OEQ	.33*	.07	.27*	.05
GBD	.26*	.04	.29*	.06
Conservatism	.34*	.10	.28*	.07
R^2 Model	.54		.45	
F Model	137.67*		96.03*	

Note. *$p < .01$, $n = 355$

Study Two

For Study Two, there were fifteen missing values for the SDO scale, eleven for the conservatism scale, 28 for the sexual prejudice scale, and seven for the opposition to same-sex marriage scale. Inverse transformations fixed skew for OEQ and reduced skew for opposition to same-sex marriage. Log 10 transformations fixed skew for GBD and sexual prejudice. After transforming data, regression residuals appeared to be linear. There was no problem with heteroscedasticity. There were no outliers and no problems with multicollinearity. Table 4 presents correlations and descriptive statistics.

To test Hypotheses 1-3, I used two multiple regression analyses, one for the opposition to same-sex marriage model and one for the sexual prejudice model. Table 5 presents multiple regression analyses predicting opposition to same-sex marriage and sexual prejudice toward same-sex marriage beneficiaries. Consistent with Hypothesis 1, greater opposition to equality was related to opposition to same-sex marriage and to sexual prejudice. Consistent with Hypothesis 2, higher group-based dominance was related to opposition to same-sex marriage and to sexual prejudice. Consistent with Hypothesis 3, conservatism was related to opposition to same-sex marriage and to sexual prejudice

To test Hypotheses 4-5, I compared regression betas using the MASS package in R to detect significant differences between coefficients (Venables & Ripley, 2002). Consistent with Hypothesis 4, opposition to equality was stronger ($b^* = .34$) than group-based dominance ($b^* = .15$) when predicting opposition to same-sex marriage $t(366) =$

2.52, $p = .01$. Contrary to Hypothesis 5, there was no difference between group-based dominance ($b^* = .20$) and opposition to equality ($b^* = .18$) when predicting sexual prejudice $t(354) = 0.33$, $p = .74$.

Research Question

To test the Research Question addressing whether opposition to same-sex marriage and sexual prejudice changed after California legalized same-sex marriage, I used independent sample t-tests. There was no difference in opposition to same-sex marriage before ($M = 1.27$, $SD = 1.97$) and after ($M = 0.99$, $SD = 1.68$) same-sex marriage became legal $t(366) = 1.31$, $p = .19$; however, sexual prejudice decreased ($Ms = 2.35, 2.12$, $SDs = 1.15, 1.19$) after same-sex marriage became legal $t(366) = 2.22$, $p = .03$, $d = 0.20$.

Table 4

Correlations, untransformed means, and untransformed standard deviations.

Variable	1	2	3	4	*M*	*SD*
Study Two						
1. Opposition to SSM					1.18	1.88
2. Sexual Prejudice	.68*				2.28	1.16
3. OEQ	.49*	.37*			1.01	1.22
4. GBD	.40*	.37*	.48*		1.88	1.64
5. Conservatism	.42*	.41*	.28*	.31*	3.54	0.86

Note: $n = 367$, $p < .001$

Table 5

Multiple Regression Analyses Predicting Opposition to Same-Sex Marriage and Sexual Prejudice Toward Same-Sex Marriage Beneficiaries.

	Opposition to Same-Sex Marriage		*Sexual Prejudice toward Same-Sex Marriage Beneficiaries*	
Variable	*b**	sr^2	*b**	sr^2
Study Two				
OEQ	.34*	.08	.20*	.03
GBD	.15*	.02	.18*	.02
Conservatism	.28*	.07	.30*	.08
R^2 Model	.34		.26	
F Model	63.44*		43.57*	

Note. *$p < .001$, $n = 367$

Discussion

The present study examined relationships between opposition to same-sex marriage and sexual prejudice from the frameworks of social dominance orientation (i.e., opposition to equality [OEQ] and group-based dominance [GBD]), and conservativism. Perhaps the most important finding of these studies is that individuals may rely on different motivations or ideologies concerning their attitudes toward sexual minorities and same-sex policies. Consistent with Hypotheses 1-3 and past research OEQ, GBD, and conservatism predicted both opposition to same-sex marriage and sexual prejudice well in both studies. Findings partially supported Hypotheses 4. Contrary to Hypothesis 4, there was no difference between opposition to equality and group-based dominance when predicting opposition to same-sex marriage in Study One. Consistent with Hypothesis 4, opposition to equality was a stronger predictor than group-based dominance when predicting opposition to same-sex marriage in Study Two. Contrary to Hypothesis 5, there was no difference between group-based dominance and opposition to equality when predicting sexual prejudice in both studies. The Research Question revealed that the prevalence of opposition to same-sex marriage was similar both before and after same-sex marriage became legal, but sexual prejudice became less prevalent after same-sex marriage became legal.

Social Dominance Orientation

Theoretically, some researchers consider opposition to equality (OEQ) a system justification construct related to aversion overturning the current social order, whereas they consider group-based dominance (GBD) an in-group promotion and outgroup derogation construct related to prejudice. Expanding on Jost and Thompson's (2000) initial theory of social dominance orientation as a two-factor construct, Kugler, Cooper, and Nosek (2010) proposed that regardless of in-group involvement OEQ predicts resistance to changing the status quo, whereas GBD distinguishes a preference for one's own group above other groups. Therefore, past researchers proposed system justification motives drive OEQ, while social identity motives drive GBD. This may the case, but it is only one way to theorize about the SDO subscales. The current study used Jost and Thompson (2000) terminology because it utilized the SDO scale they adapted, not the newer two-factor measure (i.e., Ho et al., 2015).

More recently Ho et al., (2015) created and validated a two-factor of SDO consisting of SDO-Egalitarianism (SDO-E) and SDO-Dominance (SDO-D). SDO-E is another measure of OEQ, and SDO-D is another measure of GBD. Like OEQ and GBD, people high on SDO-D prefer different types of inequality from people high in SDO-E, and they use different processes to achieve and sustain inequality. Similarly to OEQ, individuals that score high on SDO-E prefer hierarchies that can be safeguarded by anti-egalitarian ideologies and inequitable distribution of resources. Similar to GBD, individuals that score high on SDO-D prefer hierarchies where dominant groups oppress

subordinate groups, and are willing to use aggressive force in maintaining dominance. There may be qualitative differences between hierarchy enhancing mechanisms that are oppressive and aggressive versus mechanisms that are subtle and ideological. Empirically in some cases (e.g., opposition to racial policies and political conservatism) SDO-D does not have much explanatory power after controlling for SDO-E. Therefore, researchers propose that SDO-D and SDO-E uniquely predict distinctive kinds of intergroup beliefs.

OEQ primarily relates to beliefs and views concerning proper societal structure and the degree of sympathy that low status individuals deserve. OEQ relates to less empathy toward disadvantaged groups and less support for redistributive policies, but studies are lacking on OEQ when predicting opposition to same-sex marriage and sexual prejudice. Same-sex marriage is a redistributive policy that affords more social status to same-sex couples. Therefore, theoretically OEQ should have related to both opposition to same-sex marriage and to sexual prejudice. However, OEQ should have been a better predictor than GBD of opposition to same-sex marriage (i.e., the system justification theoretical model).

GBD may stem from group justification social identity motives and relates to prejudice, aggressively promoting hierarchy against out-groups (Kugler et al., 2010), and negative attitudes toward sexual minorities (Eagly, Diekman, Johannesen-Schmidt & Koenig, 2004). Therefore, under the social identity theoretical model, GBD should have predicted both sexual prejudice and opposition to same-sex marriage. However, GBD should have been a stronger predictor than OEQ of sexual prejudice because past research suggests that GBD typically predicts prejudice better than OEQ.

Study One supported the hypotheses that OEQ and GBD predict opposition to same-sex marriage and predict sexual prejudice, consistent with past research examining OEQ and GBD with redistributive policies and prejudice. However, the hypothesis that opposition to equality would be a stronger predictor than group-based dominance to opposition to same-sex marriage, and the hypothesis that group-based dominance would relate stronger than opposition equality to sexual prejudice were not supported.

Similar to Study One, Study Two supported the hypotheses that OEQ and GBD predict opposition to same-sex marriage and predict sexual prejudice. The hypothesis that opposition to equality would be stronger than group-based dominance when predicting opposition to same-sex marriage was also supported in Study Two, but the hypothesis that GBD would be stronger than OEQ when predicting sexual prejudice was not supported. For the former hypothesis, differences between coefficients tests revealed that OEQ was a better predictor than GBD of opposition to same-sex marriage. This fails to support the hypothesis that GBD would relate stronger than OEQ to sexual prejudice, the relationship did not even follow the hypothesized direction.

The current findings support Jost and Thompson's two factor model of SDO (Jost & Thompson, 2000). Both studies supported system justification theory by demonstrating that OEQ predicts opposition to same-sex marriage. Study One did not lend support for the hypothesis that OEQ relates stronger than GBD when predicting opposition to same-sex marriage, but Study Two did lend support to this hypothesis, which suggests subtle nuances between the SDO subscales and opposition to same-sex marriage. Additionally, both studies supported group justification theory, as evidenced by GBD relating to sexual

prejudice. However, GBD and OEQ related similarly to sexual prejudice in both studies. These findings suggest that subcomponents of SDO may be similar in certain contexts (e.g., sexual prejudice), and different in other contexts (opposition to same-sex marriage). Findings may also suggest that opposition to same-sex marriage is inextricably linked to disliking LGBQ+ people.

The current study provides a unique understanding of OEQ and GBD as differential predictors of attitudes and provides a more nuanced understanding of SDO as a two-factor model than past studies. Additionally, the current study demonstrates that it is not enough to say OEQ is stronger than GBD when predicting system justifying variables if there is no significance test of difference. Past research suggests that OEQ relates stronger than GBD to the rejection of universalism, humanitarian/egalitarianism, and economic redistribution, whereas GBD relates stronger than OEQ to negative attitudes toward out-groups, hostile competition, stereotypes, and various forms of prejudice (Jost & Thompson, 2000; Kugler et al., 2010). However, those studies did not test difference in predictive power. A beta can be bigger than another beta, and still not be significantly different.

Jost & Thompson (2000) and Kugler and colleagues (2010) did not test predictive differences like Ho and colleagues did when they used statistical methods comparing semi-partial correlations to validate their SDO-E and SDO-D subscales. The current study implemented a similar method to the one used by Ho and colleagues (2015) to test predictive difference. This adds to the existing literature by examining whether Jost & Thompson's SDO subscales where distinct after testing differences in beta coefficients

the same way Ho and colleagues (2015) SDO subscales were distinct after they tested predictive difference. Future research should implement predictive difference procedures such as Ho and colleagues (2015) or the procedure used in this study (see Aberson, 2011).

Furthermore, the current study established evidence for psychological mechanisms and motives (i.e., desire to dominate out-groups and unwillingness to go against the social order) differentially contributing to opposition to same-sex marriage. When out-group members have fewer legal rights than in-group members, it may provide justification for prejudice. Like these psychological motives and SDO ideologies, additional ideologies (e.g., conservatism) also differentially predicted sexual prejudice between studies. Therefore, the next section discusses conservatism as a differential predictor.

Conservatism

As noted previously in this study, a few researchers consider SDO a subcomponent of conservatism. Conservatism is empirically closer to OEQ than SDO as a unidimensional measure. Theoretically, this is because accepting hierarchy relates to conservative political ideology (Pratto et al., 1994). However, conservatism is often measured as a separate construct from SDO even though conservatism predicts many of the same variables as SDO (e.g., perception of a dangerous world, attention to danger and threat, and inflexibility (Jost, Glaser, Kruglanski, & Sulloway, 2003). Separate from SDO, along the liberal/conservative dimension, conservative individuals tend to report

more sexual prejudice than liberal individuals (Barth & Parry, 2009). Many conservatives tend to reject homosexuality because they view it as sinful or immoral behavior based on choice (Cahn & Carbone, 2010). Like sexual prejudice, republicans and conservatives tend to generally oppose same-sex marriage. Over the years, fewer liberals and conservatives tend to oppose same-sex marriage than they did in the past. However, liberals' support is growing faster than conservatives' support, and conservatives' attitudes have remained predominantly negative (Pew, 2017).

As predicted, conservatism predicted opposition to same-sex marriage and predicted sexual prejudice against same-sex marriage beneficiaries in Study One. These findings are consistent with past research demonstrating conservativism's link to sexual prejudice. Results are also consistent with national opinion polls that reveal less support for same-sex marriage among conservative individuals than liberal and independent individuals. These results were not surprising considering that conservatives have spearheaded efforts to ban marriage equality by supporting discriminatory policies like Proposition 8 and Proposition 22, and tend to believe that homosexuality is immoral.

Study Two also supported the hypothesis that conservatism relates to opposition to same-sex marriage and sexual prejudice, consistent with past research. These findings add to past research by examining conservatism's relationship with opposition to same-sex marriage and sexual prejudice within the same study. Before the current studies, it was unclear whether conservatism predicted opposition to same-sex marriage similarly to how it predicts sexual prejudice. Conservatism predicts both opposition to same-sex marriage and sexual prejudice well, but there are subtle nuances.

In Study Two, conservatives' attitudes toward same-sex marriage did not change from Study One; however, prejudice against beneficiaries of same-sex marriage increased for conservatives in Study Two. Conservatism became a significantly stronger predictor of sexual prejudice. This is in line with current political trends suggesting stronger polarization of attitudes between liberals and conservatives, and suggests that while sexual prejudice is decreasing in the general population it is becoming stronger for conservatives (Pew, 2017). The same was not true of conservatism and opposition to same-sex marriage. The relationship between conservatism and opposition to same-sex marriage remained stable across studies. This has important implications. It provides additional evidence discrediting arguments that conservative opposition to same-sex marriage is absent of prejudice (see Poteat & Mereish, 2012) and it suggests that sexual prejudice may increase within certain contexts.

General Discussion

The current studies suggest the relationships between OEQ, GBD, and conservatism are more complex than past studies suggest. All three variables predict opposition to same-sex marriage and sexual prejudice; however, there may be different mechanisms and motivations that contribute to different outcomes. System justification motives and/or supporting anti-egalitarianism ideologies may drive opposition to equality (OEQ), social identity motives and aggression may drive group-based dominance (GBD). Additionally, system justification and social identity motives may both contribute to conservative opposition to same-sex marriage and sexual prejudice.

Past research demonstrated that conservatism is empirically closer to OEQ than SDO as a unidimensional construct, which prompted some researchers to frame SDO as an underlying component of political conservatism (Kugler et al., 2010). Study One supported this contention. Correlations between OEQ and conservatism were higher than GBD and conservatism. However, in Study Two correlations and betas between GBD and conservatism were higher than OEQ and conservatism (see Tables 2-5). This suggests that perhaps both sub-components of SDO contribute to conservatives' opposition to same-sex marriage and sexual prejudice in different contexts. The context changed in the middle of Study Two after same-sex marriage became legal in California. This may explain while GBD shared a stronger relationship than OEQ with conservatism in Study Two, but it is currently still unclear. More research is needed to draw clear conclusions. The current studies open the doors for future research examining OEQ, GBD, and conservatism's relationships with opposition to same-sex marriage and sexual prejudice.

A recent study examined opposition to same-sex marriage and sexual prejudice in the same series of five studies; however, the authors did not focus on predictive differences ideologies have when predicting opposition to same-sex marriage and sexual prejudice. Rather, these studies revealed how sexual prejudice mediated the effects of ideologies when predicting opposition to same-sex marriage (van der Toorn et al., 2017). Furthermore, past studies examining opposition to same-sex marriage and/or sexual prejudice typically use the unidimensional SDO construct. While the unidimensional SDO construct is reliable and consistently predicts prejudice against sexual minorities,

the two-factor model of SDO reveals different mechanisms and motivations for different types of prejudice and negative attitudes. The current study uniquely adds to the scientific literature by revealing how mechanisms and ideologies predict opposition to same-sex marriage differently than they predict sexual prejudice and how attitudes differ before and after same-sex marriage became legal in California.

Limitations

As noted above, our sample was not representative of the U.S. general population. Social justice is a primary mission for many Humboldt State students, which was reflected in the data. Students in these samples were largely liberal, lower in SDO, more accepting of same-sex marriage, and low on sexual prejudice. Therefore, findings here may not be generalizable to other samples or the general population. Additionally, the current study did not test causality. Therefore, relationships are not indicative to cause of outcomes. For example, opposition to equality, group-based dominance, and conservatism may lead to increased sexual prejudice and opposition to same-sex marriage, or sexual prejudice and opposition to same-sex marriage may also lead to increased opposition to equality, group-based dominance, and conservatism. The current study built on established research and common sense models stating relationships go from ideologies to prejudice and not the other way around. However, since relationships are potentially reciprocal, causality cannot be implied here.

Future Directions

Examining additional differential predictors of opposition to same-sex marriage and sexual prejudice is one possibility for future research. No past studies have examined predictive difference between SDO components on opposition to same-sex marriage and sexual prejudice until now. Studies that examine differences between OEQ and GBD when predicting prejudice or opposition to social policies do not use significance tests to reveal differences. Previous work assumes a stronger coefficient means that the variable is a stronger predictor. As demonstrated by the current study, that is not always true. Many studies state that right wing authoritarianism is the strongest predictor of sexual prejudice, but no studies present significance tests showing the strength of the difference. Right wing authoritarian and sub-components of SDO should be assessed together using methods testing dependent differences between coefficients (see Aberson [2011] for detailed methodology).

Causality models are scarce concerning sexual prejudice and opposition to same-sex marriage and are another area for additional research. It is very challenging to manipulate ideologies. However, future studies should implement experimental methods manipulating different motivations to observe potential causal effects on sexual prejudice and opposition to same-sex marriage. Current directional models such as Duckitt's Dual Process model and van der Toorn and colleagues' mediation analyses imply direction but face scrutiny because relationships are likely reciprocal. In the latter model van der Toorn and colleagues suggest that religiosity leads to conservative ideology, which leads to

sexual prejudice, which leads to opposition to same-sex marriage. They concluded that opposition to same-sex marriage and sexual prejudice share a strong association, and that sexual prejudice emboldens opposition to same-sex marriage. This may be true; however, the relationships may also be reciprocal. The current study suggests that legalizing same-sex marriage may have contributed to an increase in sexual prejudice as evidenced by certain ideologies (e.g., conservatism) sharing a stronger association with sexual prejudice in Study Two. It would be interesting to replicate van der Toorn and colleagues' mediation analyses by replacing the order of sexual prejudice and opposition to same-sex marriage. That is religiosity leads to conservatism, which leads to opposition to same-sex marriage, which leads to sexual prejudice.

Conclusion

This study focused on same-sex marriage and sexual prejudice, which are two theoretically separate but empirically related issues in the struggle for sexual equality. Marriage confers exclusive benefits, protections, and resources to its recipients, making same-sex marriage a specifically critical issue for sexual minorities (Herek, 2006). Excluding same-sex couples from marriage benefits has negative mental and physical health consequences for sexual minorities (Frost, Lehavot, & Meyer, 2015; Herdt & Kertzer, 2006). Married couples are buffered against negative life events (e.g., testifying against a spouse in court, noncitizen spouse deportation, and having relationship or parental status challenged) because they have legal protections and constitutional rights (Herek, 2006). For these reasons and many more, expounding the ideologies and

underpinning psychological and social motivations and mechanisms contributing to continued prejudicial attitudes toward sexual minorities is vital for promoting social justice, informing theory and practice, and generally enhancing social and psychological well-being among sexual minorities.

It is my hope that nuances found and presented here may assist policy makers to reduce stigma and prejudice thereby helping sexual minorities to thrive instead of further contributing to the negative mental and physical outcomes associated with sexual prejudice. For example, the current study suggests that there may be theoretical differences between psychological mechanisms that are aggressive and oppressive and psychological mechanisms that are ideological and covert concerning opposition to same-sex marriage and sexual prejudice. This knowledge may assist policy makers by having them question whether their policies are subtly oppressive of LGBTQ+ individuals. Policy makers may ask if their policies are egalitarian because subtle motivations (e.g., opposition to equality) contribute to opposition to same-sex marriage and sexual prejudice just as strongly as overt motivations (e.g., physical force). Perhaps in certain contexts subtle motivations contribute more than overt motivations to negative outcomes for LGBTQ+ individuals, as the current study demonstrates. Furthermore, policy makers (e.g., California Governor elect Gavin Newsom) may advocate change by educating others about the different mechanisms, both overt and covert, contributing to negative outcomes for LGBTQ+ individuals.

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Appendix A

SAME SEX BENEFICIARY ATTITUDES

My attitude toward people who benefit from same-sex marriage is:

0 1 2 3 4 5 6 7 8 9
No dislike at all Extreme dislike

0 1 2 3 4 5 6 7 8 9
No admiration at all Extreme admiration

0 1 2 3 4 5 6 7 8 9
No hostility at all Extreme hostility

0 1 2 3 4 5 6 7 8 9
No attraction at all Extreme attraction

0 1 2 3 4 5 6 7 8 9
No resentment at all Extreme resentment

0 1 2 3 4 5 6 7 8 9
No appreciation at all Extreme appreciation

0 1 2 3 4 5 6 7 8 9
No disdain at all Extreme disdain

0 1 2 3 4 5 6 7 8 9
No respect at all Extreme respect

0 1 2 3 4 5 6 7 8 9
No hatred at all Extreme hatred

0 1 2 3 4 5 6 7 8 9
No friendliness at all Extreme friendliness

0 1 2 3 4 5 6 7 8 9
No repulsion at all Extreme repulsion

0 1 2 3 4 5 6 7 8 9
No warmth at all Extreme warmth

Appendix B

SAME SEX MARRIAGE ATTITUDES

1. I am extremely supportive of same-sex marriage.

0	1	2	3	4	5	6	7	8	9
Strongly Disagree		Mildly Disagree				Mildly Agree		Strongly Agree	

2. Same-sex marriage should be ended as soon as possible.

0	1	2	3	4	5	6	7	8	9
Strongly Disagree		Mildly Disagree				Mildly Agree		Strongly Agree	

3. The institution of marriage should be kept strictly between a man and a woman.

0	1	2	3	4	5	6	7	8	9
Strongly Disagree		Mildly Disagree				Mildly Agree		Strongly Agree	

4. I would support a federal policy to legalize same-sex marriage.

0	1	2	3	4	5	6	7	8	9
Strongly Disagree		Mildly Disagree				Mildly Agree		Strongly Agree	

5. The goals of same-sex marriage are good.

0	1	2	3	4	5	6	7	8	9
Strongly Disagree		Mildly Disagree				Mildly Agree		Strongly Agree	

6. All in all, I oppose laws that allow same-sex couples the right to marry.

0	1	2	3	4	5	6	7	8	9
Strongly Disagree		Mildly Disagree				Mildly Agree		Strongly Agree	

7. The legalization of same-sex marriage is an important step toward the acceptance of individuals who are not heterosexual.

0	1	2	3	4	5	6	7	8	9
Strongly Disagree		Mildly Disagree				Mildly Agree		Strongly Agree	

8. Same-sex marriage ensures equal rights for all relationships regardless of sexual orientation.

0	1	2	3	4	5	6	7	8	9
Strongly Disagree		Mildly Disagree				Mildly Agree		Strongly Agree	

9. I support individuals who are not heterosexual seeking marriage rights.

0	1	2	3	4	5	6	7	8	9
Strongly Disagree		Mildly Disagree				Mildly Agree		Strongly Agree	

10. Men and women naturally complement one another, therefore a union between two men or two women should not be recognized in marriage.

0	1	2	3	4	5	6	7	8	9
Strongly Disagree		Mildly Disagree				Mildly Agree		Strongly Agree	

11. I would not support a constitutional amendment legalizing same-sex marriage.

0	1	2	3	4	5	6	7	8	9
Strongly Disagree		Mildly Disagree				Mildly Agree		Strongly Agree	

12. Same-sex couples deserve all of the rights that heterosexual couples can enjoy; therefore same-sex marriage should be available for two men or two women who choose to marry.

0	1	2	3	4	5	6	7	8	9
Strongly Disagree		Mildly Disagree				Mildly Agree		Strongly Agree	

Appendix C

Please use the scale below to indicate your agreement or disagreement with each item.

0	1	2	3	4	5	6	7	8	9
Strongly Disagree									Strongly Agree

	Rating
A. We should strive to make incomes as equal as possible.	
B. In getting what you want, it is sometimes necessary to use force against other groups.	
C. It would be good if groups could be equal.	
D. To get ahead in life, it is sometimes necessary to step on other groups.	
E. All groups should be given an equal chance in life.	
F. It's probably a good thing that certain groups are at the top and other groups are at the bottom.	
G. We would have fewer problems if we treated people more equally.	
H. Sometimes other groups must be kept in their place.	
I. It’s OK if some groups have more of a chance in life than others.	
J. Group equality should be our ideal.	
K. If certain groups stayed in their place, we would have fewer problems.	
L. We should do what we can to equalize conditions for different groups.	
M. Inferior groups should stay in their place.	
N. No one group should dominate in society.	
O. Some groups of people are simply inferior to other groups.	

Appendix D

A. What is your ethnicity?
   1. White
   2. African-American
   3. Hispanic/Latino
   4. Asian/Asian-American
   5. Native American
   6. Multiracial
   7. Other Specify _____

B. What is your age? _____

C. How would you describe your socio-economic status?
   1. Lower Class
   2. Lower-Middle Class
   3. Middle Class
   4. Upper-Middle Class
   5. Upper Class

D. Are you a registered voter?
   1. Yes 2. No

E. How would you describe your political ideology?
   1. Very Conservative
   2. Conservative
   3. Middle of the road
   4. Liberal
   5. Very Liberal

F. What political party, if any, are you a member of?
   1. Democrat
   2. Republican
   3. Green
   4. Independent
   5. Other 5a. Specify _____

G. What is your sex?
   1. Male 2. Female

H. What is your sexual orientation?
   1. Heterosexual 2. Homosexual 3. Bisexual

I. What is your relationship status?

1. Single 2. Cohabitating 3. Married/Widowed
4.Divorced/Separated

J. Are you a religious person?
1. Yes 2. No

K. Please indicate your level of religiosity using the following scale:

0	1	2	3	4	5	6	7	8	9
Not at all Religious								Extremely Religious	

L. How often do you attend religious services?
1. Never
2. Less than once a year
3. About once or twice a year
4. Several times a year
5. 2-3 times a month
6. Nearly every week
7. Several times a week

M. How often do you read the bible?
1. Never
2. Less than once a year
3. About once or twice a year
4. Several times a year
5. 2-3 times a month
6. Nearly every week
7. Several times a week

N. What is your religious denomination or religious affiliation? (e.g. Methodist, Baptist, Catholic, etc...)
Specify _____

O. Year in College:
1. Freshman 2. Sophomore 3. Junior 4. Senior 5. Postbac.

Appendix E

SDO Subscale—Opposition to Equality

A. We should strive to make incomes as equal as possible.

C. It would be good if groups could be equal.

E. All groups should be given an equal chance in life.

G. We would have fewer problems if we treated people more equally.

J. Group equality should be our ideal.

L. We should do what we can to equalize conditions for different groups.

N. No one group should dominate in society.

SDO Subscale—Group-Based Dominance

B. In getting what you want, it is sometimes necessary to use force against other groups.

D. To get ahead in life, it is sometimes necessary to step on other groups.

F. It's probably a good thing that certain groups are at the top and other groups are at the bottom.

H. Sometimes other groups must be kept in their place.

I. It’s OK if some groups have more of a chance in life than others.

K. If certain groups stayed in their place, we would have fewer problems.

M. Inferior groups should stay in their place.

O. Some groups of people are simply inferior to other groups.

Appendix F

Study One Opposition to Same-Sex Marriage Analysis for Dependent Coefficients (R Code)

```
require(MASS)
depb_pwr<-function(ry1, ry2, ry3=NULL, r12, r13=NULL, r23=NULL,n=NULL, alpha=.05)
{
 require(MASS)
 pred<-NA
 pred[is.null(r23)]<-2
 pred[!is.null(r23)]<-3
 if (pred=="2")
 {pop <- mvrnorm(n, mu<-c(0,0,0), Sigma<-matrix(c(1, ry1, ry2,
                                    ry1, 1, r12,
                                    ry2, r12, 1),
                                   ncol=3), empirical=TRUE)
 pop1<-data.frame(pop)
 values<-lm(X1~X2+X3, pop1)
 values<-summary(values)
 b1<-(values$coefficients)[2,1] #grabs b from each analysis
 b2<-(values$coefficients)[3,1]
 seb1<-(values$coefficients)[2,2]
 seb2<-(values$coefficients)[3,2]
 df<-n-pred
 mat<-cbind(c(1,r12),c(r12,1))
 inv<-solve(mat)*mat
 pij<-inv[1,2] #inv of cor between pred of interest
 pii<-inv[1,1] #inv of cov, v1
 pjj<-inv[2,2] #inv of cov, v2
 den1<-seb1^2+seb2^2
 den2<-2*seb1*seb2
 den3<-pij/(pii+pjj)
 den<-(den1-(den2*den3))^.5
 t<-abs((abs(b1)-(abs(b2)))) / den
 lambda<-t^2
 df<-n-3
 minusalpha<-1-alpha
 Fb<-qf(minusalpha, 1, df)
 power1<-1-pf(Fb, 1,df,lambda)
 print(paste("Sample size is ",n))
 print(paste("Power Comparing b1 and b2<-", power1))
 }
 if (pred=="3")
 {
  pop <- mvrnorm(n, mu<-c(0, 0, 0, 0), Sigma<-matrix(c(1, ry1, ry2, ry3,
                                      ry1, 1, r12, r13,
                                      ry2, r12,1, r23,
                                      ry3, r13, r23, 1),
                                     ncol=4), empirical=TRUE)
  pop1<-data.frame(pop)
  values<-lm(X1~X2+X3+X4, pop1)
  values<-summary(values)
```

```
  b1<-(values$coefficients)[2,1] #grabs b from each analysis
  b2<-(values$coefficients)[3,1]
  b3<-(values$coefficients)[4,1]
  seb1<-(values$coefficients)[2,2]
  seb2<-(values$coefficients)[3,2]
  seb3<-(values$coefficients)[4,2]
  df<-n-pred
  mat<-cbind(c(1,r12,r13),c(r12,1, r23),c(r13,r23,1))
  inv<-solve(mat)*mat
  # 1 vs 2
  pij1<-inv[1,2] #inv of cor between pred of interest 1 vs. 2
  pii1<-inv[1,1] #inv of cov, v1
  pjj1<-inv[2,2] #inv of cov, v2
  den1a<-seb1^2+seb2^2
  den2a<-2*seb1*seb2
  den3a<-pij1/(pii1+pjj1)
  dena<-(den1a-(den2a*den3a))^.5
  ta<-abs(abs(b1)-abs(b2))/ dena
  lambdaa<-ta^2
  #1 vs 3
  pij2<-inv[1,3] #inv of cor between pred of interest 1 vs. 2
  pii2<-inv[1,1] #inv of cov, v1
  pjj2<-inv[3,3] #inv of cov, v2
  den1b<-seb1^2+seb3^2
  den2b<-2*seb1*seb3
  den3b<-pij2/(pii2+pjj2)
  denb<-(den1b-(den2b*den3b))^.5
  tb<-abs(abs(b1)-abs(b3)) / denb
  lambdab<-tb^2
  #2 vs 3
  pij3<-inv[2,3] #inv of cor between pred of interest 1 vs. 2
  pii3<-inv[2,2] #inv of cov, v1
  pjj3<-inv[3,3] #inv of cov, v2
  den1c<-seb2^2+seb3^2
  den2c<-2*seb2*seb3
  den3c<-pij3/(pii3+pjj3)
  denc<-(den1c-(den2c*den3c))^.5
  tc<-abs(abs(b2)-abs(b3)) / denc
  lambdac<-tc^2

  minusalpha<-1-alpha
  Fb<-qf(minusalpha, 1, df)
  power12<-round(1-pf(Fb, 1,df,lambdaa),3)
  power13<-round(1-pf(Fb, 1,df,lambdab),3)
  power23<-round(1-pf(Fb, 1,df,lambdac), 3)
  print(paste("Sample size is ",n))
  print(paste("t Comparing b1 and b2 = ", ta))
  print(paste("t Comparing b1 and b3 = ", tb))
  print(paste("t Comparing b2 and b3 = ", tc))
 }}
depb_pwr(ry1=.613, ry2=.556, ry3=-.566, r12=.539, r13=-.409, r23=-.351,n=355, alpha=.05)
```

Appendix G

Study One Sexual Prejudice Analysis for Dependent Coefficients (R Code)

```
require(MASS)
depb_pwr<-function(ry1, ry2, ry3=NULL, r12, r13=NULL, r23=NULL,n=NULL, alpha=.05)
{
 require(MASS)
 pred<-NA
 pred[is.null(r23)]<-2
 pred[!is.null(r23)]<-3
 if (pred=="2")
 {pop <- mvrnorm(n, mu<-c(0,0,0), Sigma<-matrix(c(1, ry1, ry2,
                                        ry1, 1, r12,
                                        ry2, r12, 1),
                                       ncol=3), empirical=TRUE)
 pop1<-data.frame(pop)
 values<-lm(X1~X2+X3, pop1)
 values<-summary(values)
 b1<-(values$coefficients)[2,1] #grabs b from each analysis
 b2<-(values$coefficients)[3,1]
 seb1<-(values$coefficients)[2,2]
 seb2<-(values$coefficients)[3,2]
 df<-n-pred
 mat<-cbind(c(1,r12),c(r12,1))
 inv<-solve(mat)*mat
 pij<-inv[1,2] #inv of cor between pred of interest
 pii<-inv[1,1] #inv of cov, v1
 pjj<-inv[2,2] #inv of cov, v2
 den1<-seb1^2+seb2^2
 den2<-2*seb1*seb2
 den3<-pij/(pii+pjj)
 den<-(den1-(den2*den3))^.5
 t<-abs((abs(b1)-(abs(b2)))) / den
 lambda<-t^2
 df<-n-3
 minusalpha<-1-alpha
 Fb<-qf(minusalpha, 1, df)
 power1<-1-pf(Fb, 1,df,lambda)
 print(paste("Sample size is ",n))
 print(paste("Power Comparing b1 and b2<-", power1))
 }
 if (pred=="3")
 {
  pop <- mvrnorm(n, mu<-c(0, 0, 0, 0), Sigma<-matrix(c(1, ry1, ry2, ry3,
                                          ry1, 1, r12, r13,
                                          ry2, r12,1, r23,
                                          ry3, r13, r23, 1),
                                         ncol=4), empirical=TRUE)
  pop1<-data.frame(pop)
```

```
  values<-lm(X1~X2+X3+X4, pop1)
  values<-summary(values)
  b1<-(values$coefficients)[2,1] #grabs b from each analysis
  b2<-(values$coefficients)[3,1]
  b3<-(values$coefficients)[4,1]
  seb1<-(values$coefficients)[2,2]
  seb2<-(values$coefficients)[3,2]
  seb3<-(values$coefficients)[4,2]
  df<-n-pred
  mat<-cbind(c(1,r12,r13),c(r12,1, r23),c(r13,r23,1))
  inv<-solve(mat)*mat
  # 1 vs 2
  pij1<-inv[1,2] #inv of cor between pred of interest 1 vs. 2
  pii1<-inv[1,1] #inv of cov, v1
  pjj1<-inv[2,2] #inv of cov, v2
  den1a<-seb1^2+seb2^2
  den2a<-2*seb1*seb2
  den3a<-pij1/(pii1+pjj1)
  dena<-(den1a-(den2a*den3a))^.5
  ta<-abs(abs(b1)-abs(b2))/ dena
  lambdaa<-ta^2
  #1 vs 3
  pij2<-inv[1,3] #inv of cor between pred of interest 1 vs. 2
  pii2<-inv[1,1] #inv of cov, v1
  pjj2<-inv[3,3] #inv of cov, v2
  den1b<-seb1^2+seb3^2
  den2b<-2*seb1*seb3
  den3b<-pij2/(pii2+pjj2)
  denb<-(den1b-(den2b*den3b))^.5
  tb<-abs(abs(b1)-abs(b3)) / denb
  lambdab<-tb^2
  #2 vs 3
  pij3<-inv[2,3] #inv of cor between pred of interest 1 vs. 2
  pii3<-inv[2,2] #inv of cov, v1
  pjj3<-inv[3,3] #inv of cov, v2
  den1c<-seb2^2+seb3^2
  den2c<-2*seb2*seb3
  den3c<-pij3/(pii3+pjj3)
  denc<-(den1c-(den2c*den3c))^.5
  tc<-abs(abs(b2)-abs(b3)) / denc
  lambdac<-tc^2
  minusalpha<-1-alpha
  Fb<-qf(minusalpha, 1, df)
  power12<-round(1-pf(Fb, 1,df,lambdaa),3)
  power13<-round(1-pf(Fb, 1,df,lambdab),3)
  power23<-round(1-pf(Fb, 1,df,lambdac), 3)
  print(paste("Sample size is ",n))
  print(paste("t Comparing b1 and b2 = ", ta))
  print(paste("t Comparing b1 and b3 = ", tb))
  print(paste("t Comparing b2 and b3 = ", tc))
 }}
depb_pwr(ry1=.549, ry2=.540, ry3=-.498, r12=.539, r13=-.409, r23=-.351,n=355, alpha=.05)
```

Appendix H

Study Two Opposition to Same-Sex Marriage Analysis for Dependent Coefficients (R Code)

```
require(MASS)
depb_pwr<-function(ry1, ry2, ry3=NULL, r12, r13=NULL, r23=NULL,n=NULL, alpha=.05)
{
 require(MASS)
 pred<-NA
 pred[is.null(r23)]<-2
 pred[!is.null(r23)]<-3
 if (pred=="2")
 {pop <- mvrnorm(n, mu<-c(0,0,0), Sigma<-matrix(c(1, ry1, ry2,
                                    ry1, 1, r12,
                                    ry2, r12, 1),
                                   ncol=3), empirical=TRUE)
 pop1<-data.frame(pop)
 values<-lm(X1~X2+X3, pop1)
 values<-summary(values)
 b1<-(values$coefficients)[2,1] #grabs b from each analysis
 b2<-(values$coefficients)[3,1]
 seb1<-(values$coefficients)[2,2]
 seb2<-(values$coefficients)[3,2]
 df<-n-pred
 mat<-cbind(c(1,r12),c(r12,1))
 inv<-solve(mat)*mat
 pij<-inv[1,2] #inv of cor between pred of interest
 pii<-inv[1,1] #inv of cov, v1
 pjj<-inv[2,2] #inv of cov, v2
 den1<-seb1^2+seb2^2
 den2<-2*seb1*seb2
 den3<-pij/(pii+pjj)
 den<-(den1-(den2*den3))^.5
 t<-abs((abs(b1)-(abs(b2)))) / den
 lambda<-t^2
 df<-n-3
 minusalpha<-1-alpha
 Fb<-qf(minusalpha, 1, df)
 power1<-1-pf(Fb, 1,df,lambda)
 print(paste("Sample size is ",n))
 print(paste("Power Comparing b1 and b2<-", power1))
 }
 if (pred=="3")
 {
  pop <- mvrnorm(n, mu<-c(0, 0, 0, 0), Sigma<-matrix(c(1, ry1, ry2, ry3,
                                     ry1, 1, r12, r13,
                                     ry2, r12,1, r23,
                                     ry3, r13, r23, 1),
                                    ncol=4), empirical=TRUE)
  pop1<-data.frame(pop)
  values<-lm(X1~X2+X3+X4, pop1)
```

```
  values<-summary(values)
  b1<-(values$coefficients)[2,1] #grabs b from each analysis
  b2<-(values$coefficients)[3,1]
  b3<-(values$coefficients)[4,1]
  seb1<-(values$coefficients)[2,2]
  seb2<-(values$coefficients)[3,2]
  seb3<-(values$coefficients)[4,2]
  df<-n-pred
  mat<-cbind(c(1,r12,r13),c(r12,1, r23),c(r13,r23,1))
  inv<-solve(mat)*mat
  # 1 vs 2
  pij1<-inv[1,2] #inv of cor between pred of interest 1 vs. 2
  pii1<-inv[1,1] #inv of cov, v1
  pjj1<-inv[2,2] #inv of cov, v2
  den1a<-seb1^2+seb2^2
  den2a<-2*seb1*seb2
  den3a<-pij1/(pii1+pjj1)
  dena<-(den1a-(den2a*den3a))^.5
  ta<-abs(abs(b1)-abs(b2))/ dena
  lambdaa<-ta^2
  #1 vs 3
  pij2<-inv[1,3] #inv of cor between pred of interest 1 vs. 2
  pii2<-inv[1,1] #inv of cov, v1
  pjj2<-inv[3,3] #inv of cov, v2
  den1b<-seb1^2+seb3^2
  den2b<-2*seb1*seb3
  den3b<-pij2/(pii2+pjj2)
  denb<-(den1b-(den2b*den3b))^.5
  tb<-abs(abs(b1)-abs(b3)) / denb
  lambdab<-tb^2
  #2 vs 3
  pij3<-inv[2,3] #inv of cor between pred of interest 1 vs. 2
  pii3<-inv[2,2] #inv of cov, v1
  pjj3<-inv[3,3] #inv of cov, v2
  den1c<-seb2^2+seb3^2
  den2c<-2*seb2*seb3
  den3c<-pij3/(pii3+pjj3)
  denc<-(den1c-(den2c*den3c))^.5
  tc<-abs(abs(b2)-abs(b3)) / denc
  lambdac<-tc^2

  minusalpha<-1-alpha
  Fb<-qf(minusalpha, 1, df)
  power12<-round(1-pf(Fb, 1,df,lambdaa),3)
  power13<-round(1-pf(Fb, 1,df,lambdab),3)
  power23<-round(1-pf(Fb, 1,df,lambdac), 3)
  print(paste("Sample size is ",n))
  print(paste("t Comparing b1 and b2 = ", ta))
  print(paste("t Comparing b1 and b3 = ", tb))
  print(paste("t Comparing b2 and b3 = ", tc))
 }}
depb_pwr(ry1=.488, ry2=.400, ry3=-.423, r12=.475, r13=-.282, r23=-.313,n=367, alpha=.05)
```

Appendix I

Study Two Sexual Prejudice Analysis for Dependent Coefficients (R Code)

```
require(MASS)
depb_pwr<-function(ry1, ry2, ry3=NULL, r12, r13=NULL, r23=NULL,n=NULL, alpha=.05)
{
 require(MASS)
 pred<-NA
 pred[is.null(r23)]<-2
 pred[!is.null(r23)]<-3
 if (pred=="2")
 {pop <- mvrnorm(n, mu<-c(0,0,0), Sigma<-matrix(c(1, ry1, ry2,
                                        ry1, 1, r12,
                                        ry2, r12, 1),
                                       ncol=3), empirical=TRUE)
 pop1<-data.frame(pop)
 values<-lm(X1~X2+X3, pop1)
 values<-summary(values)
 b1<-(values$coefficients)[2,1] #grabs b from each analysis
 b2<-(values$coefficients)[3,1]
 seb1<-(values$coefficients)[2,2]
 seb2<-(values$coefficients)[3,2]
 df<-n-pred
 mat<-cbind(c(1,r12),c(r12,1))
 inv<-solve(mat)*mat
 pij<-inv[1,2] #inv of cor between pred of interest
 pii<-inv[1,1] #inv of cov, v1
 pjj<-inv[2,2] #inv of cov, v2
 den1<-seb1^2+seb2^2
 den2<-2*seb1*seb2
 den3<-pij/(pii+pjj)
 den<-(den1-(den2*den3))^.5
 t<-abs((abs(b1)-(abs(b2)))) / den
 lambda<-t^2
 df<-n-3
 minusalpha<-1-alpha
 Fb<-qf(minusalpha, 1, df)
 power1<-1-pf(Fb, 1,df,lambda)
 print(paste("Sample size is ",n))
 print(paste("Power Comparing b1 and b2<-", power1))
 }
 if (pred=="3")
 {
  pop <- mvrnorm(n, mu<-c(0, 0, 0, 0), Sigma<-matrix(c(1, ry1, ry2, ry3,
                                          ry1, 1, r12, r13,
                                          ry2, r12,1, r23,
                                          ry3, r13, r23, 1),
                                         ncol=4), empirical=TRUE)
  pop1<-data.frame(pop)
```

```
  values<-lm(X1~X2+X3+X4, pop1)
  values<-summary(values)
  b1<-(values$coefficients)[2,1] #grabs b from each analysis
  b2<-(values$coefficients)[3,1]
  b3<-(values$coefficients)[4,1]
  seb1<-(values$coefficients)[2,2]
  seb2<-(values$coefficients)[3,2]
  seb3<-(values$coefficients)[4,2]
  df<-n-pred
  mat<-cbind(c(1,r12,r13),c(r12,1, r23),c(r13,r23,1))
  inv<-solve(mat)*mat
  # 1 vs 2
  pij1<-inv[1,2] #inv of cor between pred of interest 1 vs. 2
  pii1<-inv[1,1] #inv of cov, v1
  pjj1<-inv[2,2] #inv of cov, v2
  den1a<-seb1^2+seb2^2
  den2a<-2*seb1*seb2
  den3a<-pij1/(pii1+pjj1)
  dena<-(den1a-(den2a*den3a))^.5
  ta<-abs(abs(b1)-abs(b2))/ dena
  lambdaa<-ta^2
  #1 vs 3
  pij2<-inv[1,3] #inv of cor between pred of interest 1 vs. 2
  pii2<-inv[1,1] #inv of cov, v1
  pjj2<-inv[3,3] #inv of cov, v2
  den1b<-seb1^2+seb3^2
  den2b<-2*seb1*seb3
  den3b<-pij2/(pii2+pjj2)
  denb<-(den1b-(den2b*den3b))^.5
  tb<-abs(abs(b1)-abs(b3)) / denb
  lambdab<-tb^2
  #2 vs 3
  pij3<-inv[2,3] #inv of cor between pred of interest 1 vs. 2
  pii3<-inv[2,2] #inv of cov, v1
  pjj3<-inv[3,3] #inv of cov, v2
  den1c<-seb2^2+seb3^2
  den2c<-2*seb2*seb3
  den3c<-pij3/(pii3+pjj3)
  denc<-(den1c-(den2c*den3c))^.5
  tc<-abs(abs(b2)-abs(b3)) / denc
  lambdac<-tc^2
  minusalpha<-1-alpha
  Fb<-qf(minusalpha, 1, df)
  power12<-round(1-pf(Fb, 1,df,lambdaa),3)
  power13<-round(1-pf(Fb, 1,df,lambdab),3)
  power23<-round(1-pf(Fb, 1,df,lambdac), 3)
  print(paste("Sample size is ",n))
  print(paste("t Comparing b1 and b2 = ", ta))
  print(paste("t Comparing b1 and b3 = ", tb))
  print(paste("t Comparing b2 and b3 = ", tc))
 }}
depb_pwr(ry1=.371, ry2=.367, ry3=-.414, r12=.475, r13=-.282, r23=-.313,n=367, alpha=.05)
```

Appendix J

OEQ CI Analysis for Detecting Differences between Opposition to Same-Sex Marriage Models for Study One and Study Two (SPSS)

```
INPUT PROGRAM.
LOOP n=722 TO 722 by 1.
END CASE.
END LOOP.
END FILE.
END INPUT PROGRAM.
EXECUTE .
Compute Prop_N1 = .49168975.
Compute b1 = .396.
Compute r2y1 = .5406.
Compute r2_1 = .21285.
Compute b2 = .363.
Compute r2y2 = .3439.
Compute r2_2 = .24505.
Compute sdy1 = 2.
Compute sdy2 = 2.
Compute sd1 = .270377.
Compute sd2 = .2854.
Compute alpha = .05.
Compute tails = 2.
Compute k = 3.
Compute N1 = N * Prop_N1.
Compute N2 = N * (1-Prop_N1).
Compute seb1 = (sdy1/sd1)* (1/(1-r2_1)**.5)*(((1-r2y1)/(n1-k-1))**.5).
Compute seb2 = (sdy2/sd2)*(1/(1-r2_2)**.5)*(((1-r2y2)/(n2-k-1))**.5).
Compute df = n1+n2-k-k-2.
Compute alpha_tails = alpha/tails.
Compute fail = 1-alpha_tails.
Compute slope_diff = abs(b1-b2).
compute sediff = Sqrt((seb1**2) + (seb2**2)).
compute delta = slope_diff / sediff.
COMPUTE t_tabled = IDF.t(fail,df) .
COMPUTE Power = 1-NCDF.t(t_tabled,df,delta) .
Compute LL_diff = slope_diff - (t_tabled*sediff).
Compute UL_diff = slope_diff + (t_tabled*sediff).
execute.
MATRIX.
GET M /VARIABLES=n1 n2 ll_diff ul_diff power.
print M/title = "Comparing two independent predictors"/clabels = "n1" "n2" "LL"
"UL"  "power"/format f9.3.
End Matrix.
```

Appendix K

OEQ CI Analysis for Detecting Differences between Sexual Prejudice Models for Study One and Study Two (SPSS)

```
INPUT PROGRAM.
LOOP n=722 TO 722 by 1.
END CASE.
END LOOP.
END FILE.
END INPUT PROGRAM.
EXECUTE .
Compute Prop_N1 = .49168975.
Compute b1 = 1.955.
Compute r2y1 = .45075.
Compute r2_1 = .21285.
Compute b2 = .104.
Compute r2y2 = .2647.
Compute r2_2 = .24505.
Compute sdy1 = 2.
Compute sdy2 = 2.
Compute sd1 = .270377.
Compute sd2 = .2854.
Compute alpha = .05.
Compute tails = 2.
Compute k = 3.
Compute N1 = N * Prop_N1.
Compute N2 = N * (1-Prop_N1).
Compute seb1 = (sdy1/sd1)* (1/(1-r2_1)**.5)*(((1-r2y1)/(n1-k-1))**.5).
Compute seb2 = (sdy2/sd2)*(1/(1-r2_2)**.5)*(((1-r2y2)/(n2-k-1))**.5).
Compute df = n1+n2-k-k-2.
Compute alpha_tails = alpha/tails.
Compute fail = 1-alpha_tails.
Compute slope_diff = abs(b1-b2).
compute sediff = Sqrt((seb1**2) + (seb2**2)).
compute delta = slope_diff / sediff.
COMPUTE t_tabled = IDF.t(fail,df) .
COMPUTE Power = 1-NCDF.t(t_tabled,df,delta) .
Compute LL_diff = slope_diff - (t_tabled*sediff).
Compute UL_diff = slope_diff + (t_tabled*sediff).
execute.
MATRIX.
GET M /VARIABLES=n1 n2 ll_diff ul_diff power.
print M/title = "Comparing two independent predictors"/clabels = "n1" "n2" "LL"
"UL"  "power"/format f9.3.
End Matrix.
```

Appendix L

GBD CI Analysis for Detecting Differences between Opposition to Same-Sex Marriage Models for Study One and Study Two (SPSS)

```
INPUT PROGRAM.
LOOP n=722 TO 722 by 1.
END CASE.
END LOOP.
END FILE.
END INPUT PROGRAM.
EXECUTE .
Compute Prop_N1 = .49168975.
Compute b1 = .163.
Compute r2y1 = .5406.
Compute r2_1 = .23765.
Compute b2 = .186.
Compute r2y2 = .3439.
Compute r2_2 = .26054.
Compute sdy1 = 2.
Compute sdy2 = 2.
Compute sd1 = .50001865.
Compute sd2 = .2525635.
Compute alpha = .05.
Compute tails = 2.
Compute k = 3.
Compute N1 = N * Prop_N1.
Compute N2 = N * (1-Prop_N1).
Compute seb1 = (sdy1/sd1)* (1/(1-r2_1)**.5)*(((1-r2y1)/(n1-k-1))**.5).
Compute seb2 = (sdy2/sd2)*(1/(1-r2_2)**.5)*(((1-r2y2)/(n2-k-1))**.5).
Compute df = n1+n2-k-k-2.
Compute alpha_tails = alpha/tails.
Compute fail = 1-alpha_tails.
Compute slope_diff = abs(b1-b2).
compute sediff = Sqrt((seb1**2) + (seb2**2)).
compute delta = slope_diff / sediff.
COMPUTE t_tabled = IDF.t(fail,df) .
COMPUTE Power = 1-NCDF.t(t_tabled,df,delta) .
Compute LL_diff = slope_diff - (t_tabled*sediff).
Compute UL_diff = slope_diff + (t_tabled*sediff).
execute.
MATRIX.
GET M /VARIABLES=n1 n2 ll_diff ul_diff power.
print M/title = "Comparing two independent predictors"/clabels = "n1" "n2" "LL"
"UL"  "power"/format f9.3.
End Matrix.
```

Appendix M

GBD CI Analysis for Detecting Differences between Sexual Prejudice Models for Study One and Study Two (SPSS)

```
INPUT PROGRAM.
LOOP n=722 TO 722 by 1.
END CASE.
END LOOP.
END FILE.
END INPUT PROGRAM.
EXECUTE .
Compute Prop_N1 = .49168975.
Compute b1 = 1.119.
Compute r2y1 = .45075.
Compute r2_1 = .23765.
Compute b2 = .102.
Compute r2y2 = .2647.
Compute r2_2 = .26045.
Compute sdy1 = 2.
Compute sdy2 = 2.
Compute sd1 = .270377.
Compute sd2 = .2854.
Compute alpha = .05.
Compute tails = 2.
Compute k = 3.
Compute N1 = N * Prop_N1.
Compute N2 = N * (1-Prop_N1).
Compute seb1 = (sdy1/sd1)* (1/(1-r2_1)**.5)*(((1-r2y1)/(n1-k-1))**.5).
Compute seb2 = (sdy2/sd2)*(1/(1-r2_2)**.5)*(((1-r2y2)/(n2-k-1))**.5).
Compute df = n1+n2-k-k-2.
Compute alpha_tails = alpha/tails.
Compute fail = 1-alpha_tails.
Compute slope_diff = abs(b1-b2).
compute sediff = Sqrt((seb1**2) + (seb2**2)).
compute delta = slope_diff / sediff.
COMPUTE t_tabled = IDF.t(fail,df) .
COMPUTE Power = 1-NCDF.t(t_tabled,df,delta) .
Compute LL_diff = slope_diff - (t_tabled*sediff).
Compute UL_diff = slope_diff + (t_tabled*sediff).
execute.
MATRIX.
GET M /VARIABLES=n1 n2 ll_diff ul_diff power.
print M/title = "Comparing two independent predictors"/clabels = "n1" "n2" "LL"
"UL"  "power"/format f9.3.
End Matrix.
```

Appendix N

Conservatism CI Analysis for Detecting Differences between Opposition to Same-Sex Marriage Models for Study One and Study Two (SPSS)

```
INPUT PROGRAM.
LOOP n=722 TO 722 by 1.
END CASE.
END LOOP.
END FILE.
END INPUT PROGRAM.
EXECUTE .
Compute Prop_N1 = .49168975.
Compute b1 = -.113.
Compute r2y1 = .5406.
Compute r2_1 = .11995.
Compute b2 = -.101.
Compute r2y2 = .3439.
Compute r2_2 = .1208.
Compute sdy1 = 2.
Compute sdy2 = 2.
Compute sd1 = .957326.
Compute sd2 = .85898.
Compute alpha = .05.
Compute tails = 2.
Compute k = 3.
Compute N1 = N * Prop_N1.
Compute N2 = N * (1-Prop_N1).
Compute seb1 = (sdy1/sd1)* (1/(1-r2_1)**.5)*(((1-r2y1)/(n1-k-1))**.5).
Compute seb2 = (sdy2/sd2)*(1/(1-r2_2)**.5)*(((1-r2y2)/(n2-k-1))**.5).
Compute df = n1+n2-k-k-2.
Compute alpha_tails = alpha/tails.
Compute fail = 1-alpha_tails.
Compute slope_diff = abs(b1-b2).
compute sediff = Sqrt((seb1**2) + (seb2**2)).
compute delta = slope_diff / sediff.
COMPUTE t_tabled = IDF.t(fail,df) .
COMPUTE Power = 1-NCDF.t(t_tabled,df,delta) .
Compute LL_diff = slope_diff - (t_tabled*sediff).
Compute UL_diff = slope_diff + (t_tabled*sediff).
execute.
MATRIX.
GET M /VARIABLES=n1 n2 ll_diff ul_diff power.
print M/title = "Comparing two independent predictors"/clabels = "n1" "n2" "LL"
"UL"  "power"/format f9.3.
End Matrix.
```

Appendix O

Conservatism CI Analysis for Detecting Differences between Sexual Prejudice Models for Study One and Study Two (SPSS)

```
INPUT PROGRAM.
LOOP n=722 TO 722 by 1.
END CASE.
END LOOP.
END FILE.
END INPUT PROGRAM.
EXECUTE .
Compute Prop_N1 = .49168975.
Compute b1 = -.567.
Compute r2y1 = .45075.
Compute r2_1 = .11995.
Compute b2 = -.051.
Compute r2y2 = .2647.
Compute r2_2 = .1208.
Compute sdy1 = 2.
Compute sdy2 = 2.
Compute sd1 = .9557326.
Compute sd2 = .85898.
Compute alpha = .05.
Compute tails = 2.
Compute k = 3.
Compute N1 = N * Prop_N1.
Compute N2 = N * (1-Prop_N1).
Compute seb1 = (sdy1/sd1)* (1/(1-r2_1)**.5)*(((1-r2y1)/(n1-k-1))**.5).
Compute seb2 = (sdy2/sd2)*(1/(1-r2_2)**.5)*(((1-r2y2)/(n2-k-1))**.5).
Compute df = n1+n2-k-k-2.
Compute alpha_tails = alpha/tails.
Compute fail = 1-alpha_tails.
Compute slope_diff = abs(b1-b2).
compute sediff = Sqrt((seb1**2) + (seb2**2)).
compute delta = slope_diff / sediff.
COMPUTE t_tabled = IDF.t(fail,df) .
COMPUTE Power = 1-NCDF.t(t_tabled,df,delta) .
Compute LL_diff = slope_diff - (t_tabled*sediff).
Compute UL_diff = slope_diff + (t_tabled*sediff).
execute.
MATRIX.
GET M /VARIABLES=n1 n2 ll_diff ul_diff power.
print M/title = "Comparing two independent predictors"/clabels = "n1" "n2" "LL"
"UL"  "power"/format f9.3.
End Matrix.
```

Appendix P

R^2 Difference for Opposition to Same-Sex Marriage (SPSS)

```
INPUT PROGRAM.
LOOP n= 722 to 722 by 1.
END CASE.
END LOOP.
END FILE.
END INPUT PROGRAM.
EXECUTE .
Compute Prop_N1 = 0.4916.
Compute R2_1 = .5406.
Compute R2_2 = .3439.
Compute k =3.
Compute alpha = .05.
Compute tails = 2.
Compute N1 = N * Prop_N1.
Compute N2 = N * (1-Prop_N1).
Compute SER2_1 = ((4*R2_1)*(1-R2_1)**2)*((n1-k-1)**2) / ((n1**2 - 1)* (n1+3)).
Compute SER2_2 = ((4*R2_2)*(1-R2_2)**2)*((n2-k-1)**2) / ((n2**2 - 1)* (n2+3)).
Compute SER2 = (SER2_1 + SER2_2)**.5.
compute diff = abs(r2_1-r2_2).
Compute alpha_tails = alpha/tails.
Compute fail = 1-alpha_tails.
Compute df = n1+n2-k-k-1.
compute delta = diff / SER2.
COMPUTE t_tabled = IDF.t(fail,df) .
COMPUTE Power = 1-NCDF.t(t_tabled,df,delta) .
Compute LL_diff = diff - (t_tabled*SER2).
Compute UL_diff = diff + (t_tabled*SER2).
execute.
MATRIX.
GET M /VARIABLES=n1 n2 ll_diff ul_diff power.
print M/title = "Comparing two independent R-Square Values"/clabels = "n1" "n2" "LL"
"UL" "power"/format f9.3.
End Matrix.
```

Appendix Q

R^2 Difference for Sexual Prejudice (SPSS)

```
INPUT PROGRAM.
LOOP n= 722 to 722 by 1.
END CASE.
END LOOP.
END FILE.
END INPUT PROGRAM.
EXECUTE .
Compute Prop_N1 = 0.49168.
Compute R2_1 = .45075.
Compute R2_2 = .2647.
Compute k =3.
Compute alpha = .05.
Compute tails = 2.
Compute N1 = N * Prop_N1.
Compute N2 = N * (1-Prop_N1).
Compute SER2_1 = ((4*R2_1)*(1-R2_1)**2)*((n1-k-1)**2) / ((n1**2 - 1)* (n1+3)).
Compute SER2_2 = ((4*R2_2)*(1-R2_2)**2)*((n2-k-1)**2) / ((n2**2 - 1)* (n2+3)).
Compute SER2 = (SER2_1 + SER2_2)**.5.
compute diff = abs(r2_1-r2_2).
Compute alpha_tails = alpha/tails.
Compute fail = 1-alpha_tails.
Compute df = n1+n2-k-k-1.
compute delta = diff / SER2.
COMPUTE t_tabled = IDF.t(fail,df) .
COMPUTE Power = 1-NCDF.t(t_tabled,df,delta) .
Compute LL_diff = diff - (t_tabled*SER2).
Compute UL_diff = diff + (t_tabled*SER2).
execute.
MATRIX.
GET M /VARIABLES=n1 n2 ll_diff ul_diff power.
print M/title = "Comparing two independent R-Square Values"/clabels = "n1" "n2" "LL"
"UL" "power"/format f9.3.
End Matrix.
```

Appendix R

R^2 Difference for Opposition to Same-Sex Marriage and Sexual Prejudice in Study One (SPSS)

```
INPUT PROGRAM.
LOOP n= 710 to 710 by 1.
END CASE.
END LOOP.
END FILE.
END INPUT PROGRAM.
EXECUTE .
Compute Prop_N1 = 0.50.
Compute R2_1 = .5406.
Compute R2_2 = .45075.
Compute k =3.
Compute alpha = .05.
Compute tails = 2.
Compute N1 = N * Prop_N1.
Compute N2 = N * (1-Prop_N1).
Compute SER2_1 = ((4*R2_1)*(1-R2_1)**2)*((n1-k-1)**2) / ((n1**2 - 1)* (n1+3)).
Compute SER2_2 = ((4*R2_2)*(1-R2_2)**2)*((n2-k-1)**2) / ((n2**2 - 1)* (n2+3)).
Compute SER2 = (SER2_1 + SER2_2)**.5.
compute diff = abs(r2_1-r2_2).
Compute alpha_tails = alpha/tails.
Compute fail = 1-alpha_tails.
Compute df = n1+n2-k-k-1.
compute delta = diff / SER2.
COMPUTE t_tabled = IDF.t(fail,df) .
COMPUTE Power = 1-NCDF.t(t_tabled,df,delta) .
Compute LL_diff = diff - (t_tabled*SER2).
Compute UL_diff = diff + (t_tabled*SER2).
execute.
MATRIX.
GET M /VARIABLES=n1 n2 ll_diff ul_diff power.
print M/title = "Comparing two independent R-Square Values"/clabels = "n1" "n2" "LL"
"UL" "power"/format f9.3.
End Matrix.
```

Appendix S

R^2 Difference for Opposition to Same-Sex Marriage and Sexual Prejudice in Study One (SPSS)

```
INPUT PROGRAM.
LOOP n= 734 to 734 by 1.
END CASE.
END LOOP.
END FILE.
END INPUT PROGRAM.
EXECUTE .
Compute Prop_N1 = 0.50.
Compute R2_1 = .3439.
Compute R2_2 = .2647.
Compute k =3.
Compute alpha = .05.
Compute tails = 2.
Compute N1 = N * Prop_N1.
Compute N2 = N * (1-Prop_N1).
Compute SER2_1 = ((4*R2_1)*(1-R2_1)**2)*((n1-k-1)**2) / ((n1**2 - 1)* (n1+3)).
Compute SER2_2 = ((4*R2_2)*(1-R2_2)**2)*((n2-k-1)**2) / ((n2**2 - 1)* (n2+3)).
Compute SER2 = (SER2_1 + SER2_2)**.5.
compute diff = abs(r2_1-r2_2).
Compute alpha_tails = alpha/tails.
Compute fail = 1-alpha_tails.
Compute df = n1+n2-k-k-1.
compute delta = diff / SER2.
COMPUTE t_tabled = IDF.t(fail,df) .
COMPUTE Power = 1-NCDF.t(t_tabled,df,delta) .
Compute LL_diff = diff - (t_tabled*SER2).
Compute UL_diff = diff + (t_tabled*SER2).
execute.
MATRIX.
GET M /VARIABLES=n1 n2 ll_diff ul_diff power.
print M/title = "Comparing two independent R-Square Values"/clabels = "n1" "n2" "LL"
"UL" "power"/format f9.3.
End Matrix.
```