UNIVERSITY OF CALIFORNIA

Santa Barbara

The Development of a Brief Online Intervention to Increase Parents' Self-Efficacy and Intentions for Sexual Minority-Supportive Parenting

A dissertation submitted in partial satisfaction of the requirements for the degree of Doctor of Philosophy in Counseling, Clinical, and School Psychology

by

Joshua Aaron Goodman

Committee in Charge:

Professor Tania Israel, Chair

Professor Miya Barnett

Professor Erika Felix

September 2018

The dissertation of Joshua Aaron Goodman is approved.

_____

Miya Barnett

_____

Erika Felix

_____

Tania Israel, Committee Chair

June 2018

The Development of a Brief Online Intervention to Increase Parents' Self-Efficacy and Intentions for Sexual Minority-Supportive Parenting

ACKNOWLEDGEMENTS

This study was made possible by the support of numerous others, and I can only begin to express my gratitude here. First, this study was funded by the APAGS Psychological Science Research Grant and the Hosford Research Grant; these generous contributions from APAGS and the Hosford family paid for recruitment efforts and the development of intervention materials. I would also like to thank PFLAG of Santa Barbara for their support in connecting me with parents of sexual minority individuals during the development of the PRISMS intervention. I also want to acknowledge the over 200 anonymous participants who took the time to complete this study, as well as all who helped to distribute recruitment materials.

I would like to express my deep appreciation for my dissertation committee—Tania Israel, Miya Barnett, and Erika Felix. I especially appreciated Miya's and Erika's feedback and suggestions, which played a key role in the development of the PRISMS intervention. I want to thank Tania for her support and feedback through weekly meetings, and for encouraging me to step outside of my comfort zone and grow in my approach to research. More broadly, I am thankful to Tania for instilling in me an ethos of applying psychological knowledge through intervention research to make meaningful change in people's lives; it is that value that led me on the path toward this study.

I would also like to thank my parents for all of their support and encouragement throughout my education—in graduate school and at each stage beforehand. I would not be here at this milestone without them. Likewise, I am deeply thankful for the support of my partner, Aaron, throughout this journey; he has listened to me talk about my dissertation for what are probably countless hours and provided encouragement at every step along the way.

I also want to thank my internship cohort—Jayden, Krista, and Michelle—for all of their support during this past year; being in this together as we navigated living in a new city, working in a new position, and completing our dissertations has made a world of difference.

Finally, I want to acknowledge that this study builds upon the work of numerous scholars, whose work built upon the scholars before them. The quote "If I have seen further, it is by standing on the shoulders of giants" rings true. I am in awe of the vastness of the field of psychology as I submit a work that pushes the needle in a small but meaningful way. And it is my sincere hope that this will provide another stone to step upon for someone else to see further.

VITA OF JOSHUA AARON GOODMAN
September 2018

EDUCATION:

University of California, Santa Barbara **Ph.D.** 2018 (Anticipated)
Doctor of Philosophy, Counseling, Clinical, and School Psychology

University of California, Santa Barbara **M.A.** 2014
Master of Arts, Counseling Psychology

Whitman College, Walla Walla, WA **B.A.** 2012
Bachelor of Arts *summa cum laude*, Psychology; Race and Ethnic Studies minor

PUBLICATIONS:

Israel, T., Bettergarcia, J. N., Delucio, K., Avellar, T. R., Harkness, A., & **Goodman, J. A.** (2017). Reactions of law enforcement to LGBTQ diversity training. *Human Resource Development Quarterly, 28*(2), 197-226.

Blagov, P. S., & **Goodman, J. A.** (2016). Sex, gender, and sexual orientation in the assessment of affective disorders. In Brabender, V. & Mihura, J., *Handbook of gender and sexuality in psychological assessment*. New York, NY: Routledge.

Blagov, P. S., Singer, J. A., Oost, K. M., **Goodman, J. A.**, & Pugh, A. T. (2016). Triarchic psychopathy measure: Validity in relation to normal-range traits, personality pathology, psychological adjustment, and autobiographical recall. *Journal of Personality Disorders, 30*(1), 71-81.

Israel, T., Harkness, A., Avellar, T. R., Delucio, K., Bettergarcia, J. N., & **Goodman, J. A.** (2016). LGBTQ-affirming policing: Tactics generated by law enforcement personnel. *Journal of Police and Criminal Psychology, 31*(3), 173-181.

Goodman, J. A. (2014). Oregon. In Stewart, C. S., *Proud heritage: People, issues, and documents of the LGBT experience.* Santa Barbara, CA: ABC-CLIO.

TEACHING EXPERIENCE:

Certificate in College and University Teaching, UC Santa Barbara 2018

Instructor, University of Utah 2017
Introduction to Multicultural Issues

Teaching Associate, University of California, Santa Barbara 2016-17
Helping Experiences: Theory and Practice
Positive Psychology across the Lifespan

Teaching Assistant, University of California, Santa Barbara 2013-16
College Student Peer Helping and Leadership
Helping Experiences: Theory and Practice
Introduction to Educational and Vocational Guidance
Positive Psychology across the Lifespan
Research in Applied Psychology

CLINCAL EXPERINECE:

Pre-Doctoral Internship (APA-accredited)

University Counseling Center, University of Utah, Salt Lake City, UT 2017-18

Practica and Externships

Pacific Pride Foundation, Santa Barbara, CA 2016-17
Sanctuary Centers of Santa Barbara, Santa Barbara, CA 2015-16
UCSB Career Services, Santa Barbara, CA 2015-16
UCSB Alcohol and Drug Program, Isla Vista, CA 2014-15
UCSB Counseling and Psychological Services, Santa Barbara, CA 2014-15
Hosford Counseling and Psychological Services Clinic, Santa Barbara, CA 2013-14

MENTORSHIP AND SUPERVISION EXPERIENCE:

Mentor, American Psychological Association of Graduate Students LGB+ Mentoring Program 2016-Present
Supervisor, University Counseling Center, University of Utah 2017-18
Mentor, UC Santa Barbara Graduate Scholars Program 2017

GRANTS AND FUNDING AWARDED:

APAGS Psychological Science Research Grant – Diversity Grant 2017
Hosford Research Grant 2017
Regents Fellowship, University of California, Santa Barbara 2012-2016
Louis B. Perry Summer Research Scholarship 2011

ABSTRACT

The Development of a Brief Online Intervention to Increase Parents' Self-Efficacy and Intentions for Sexual Minority-Supportive Parenting

by

Joshua A. Goodman

Sexual minority youth face mental health disparities compared to their heterosexual peers, including higher rates of depression, anxiety, suicide, and substance use. Parent support serves as a top predictive factor of mental health outcomes for sexual minority youth, but there are few psychological resources available to increase support. The first phase of this study involved the development of the Parent Resource for Increasing Sexual Minority Support (PRISMS), a brief online intervention for parents of sexual minority youth ages 13-18. Development of the PRISMS intervention was informed by psychological research about increasing parental self-efficacy and behavioral intentions for supportive parenting practices—two predictors of supportive behaviors—as well as interviews with parents of sexual minority individuals, usability testing, and feedback from researchers and practitioners with expertise in relevant areas. The second phase of this study involved testing the efficacy of the PRISMS intervention for increasing parental self-efficacy and behavioral intentions for sexual minority-supportive parenting practices, and assessing the acceptability of the intervention. Two-hundred-nineteen participants completed the study, and two analyses of

covariance were performed. Results indicated that PRISMS significantly increased parental self-efficacy for sexual minority-supportive parenting practices compared to a control, $F(1, 215) = 5.15$, $p = .024$, but did not increase behavioral intentions $F(1, 216) = .88$, $p = .350$. An exploratory analysis using an independent samples *t*-test suggested that parents who were the most distressed about their child's sexual orientation experienced gains in behavioral intentions ($t = -2.17$, $p = .030$), but further research is needed to assess this effect. Results also suggested that the PRISMS intervention was acceptable in terms of credibility, participant affect at post-test, and overall satisfaction at a level comparable to treatment as usual. Implications for research and practice are discussed. In total, the PRISMS intervention serves as a promising tool for increasing a key predictor of parent support for sexual minority youth.

TABLE OF CONTENTS

LIST OF FIGURES AND TABLES

LIST OF APPENDICES

I. Rationale

Parents of sexual minority youth—youth who identify as lesbian, gay, bisexual, questioning, or otherwise non-heterosexual—typically experience a process of adjustment to their role as a parent of a sexual minority child. After a child comes out, parents may experience a sense of grief or denial and may explore what it means to have a sexual minority child both as an individual and within their social and family networks (Ben-Ari, 1995; Phillips & Ancis, 2008; Saltzberg, 2004). Parents often navigate concerns about their child's sexual minority identity, both regarding their child—for example, that their child may be subjected to violence or experience psychological distress—and for themselves—such as the possibility of not having grandchildren (Conley, 2011a; D'amico, Julien, Tremblay, & Chartrand, 2015). Parents may also experience positive outcomes when their child comes out, including closer family relationships and new connections within sexual minority communities (Gonzalez, Rostosky, Odom, & Riggle, 2013).

At the same time that parents are adapting to their child's identity, sexual minority youth are experiencing an important developmental stage of their own lives. A typical sexual minority adolescent may be navigating the coming out process, their first same-sex relationships, or what their sexual minority identity means for them (Vaughn & Waehler, 2010). Sexual minority youth also face challenges, including high rates of verbal and physical harassment at school (Kosciw, Greytak, Palmer, & Boesen, 2014) and exposure to heterosexism in social circles and houses of worship (Morrow, 2003). Although all youth may benefit from their parents' support, sexual minority youth face several circumstances and developmental tasks in which they may especially benefit from family support.

Parenting Practices

Research to-date has identified several ways through which parents can demonstrate support for their sexual minority child. First, parents can provide general support, such as conveying love and spending time doing enjoyable activities with their child (Needham & Austin, 2010). Second, parents can provide direct support for their child's sexual orientation, including a willingness to discuss their child's sexual orientation or identity exploration process, acknowledging their child's experiences with heterosexism, and connecting their child with sexual minority media or community events (Harkness, 2016; Nesmith, Burton, & Crossgrove, 1999; Ryan, Russell, Huebner, Diaz & Sanchez, 2010). Third, parents can validate their child's same-sex relationships and be welcoming toward their child's sexual minority friends (D'Amico et al., 2015; Ryan et al., 2010). Finally, parents can serve as advocates for their children, including becoming involved in their child's school, promoting respect toward sexual minorities within their religious community, and encouraging other family members to support their child's sexual orientation (Ryan et al., 2010).

Research has also identified microaggressions used by parents of sexual minority youth that may be perceived as unsupportive. Microaggressions are "brief and commonplace daily verbal, behavioral, or environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative slights and insults toward members of oppressed groups" (Nadal et al., 2008; p 23, as cited in Nadal et al., 2011). Within families, microaggressions include the use of heterosexist language, assumptions of sexual perversion (e.g., gay men are child molesters or have HIV/AIDS), and expressing disapproval of same-sex relationships (Nadal, Rivera, & Corpus, 2010). Bisexual youth face unique microaggressions from parents, including suggestions that they are promiscuous, have an

unstable identity, or that their other-sex relationships mean they are heterosexual (Todd, Oravecz, & Vejar, 2016). Microaggressions may also come at the intersection of sexual orientation and other identities, such as gender (e.g., telling a daughter "you're too pretty to be a lesbian"). Statements toward sexual minority youth can be perceived as unsupportive even if they are well-intentioned (e.g., "you should try to be heterosexual because life is easier that way").

In more extreme instances, parents abuse or reject their children for being non-heterosexual. A parent may state that they are ashamed of their child for being non-heterosexual or that "God will punish you" for being non-heterosexual (Ryan, 2010). Some parents subject their children to sexual orientation change efforts (e.g., conversion therapy), which are ineffective and typically harmful (Shidlo & Schroeder, 2002). Finally, some parents expel their sexual minority child from their home and disown them. Nearly two-fifths of youth using homeless services identify as lesbian, gay, or bisexual (LGB), and the three most frequently endorsed reasons LGB youth were homeless or at risk of becoming homeless were that they left home due to family rejection of their sexual orientation; were required to leave their home due to their parents' disapproval of their sexual orientation; and physical, emotional, or sexual abuse at home, which is frequently related to sexual orientation (Durso & Gates, 2012).

Although parents can become more affirming of their child's sexual orientation over time (see Phillips & Ancis, 2008), they face barriers to conveying support toward their sexual minority children. Parents are themselves a product of a heterosexist society, and may lack resources and experiences that today's youth often have access to. The current generation of parents typically did not receive LGB-inclusive sex education in school, may have known

few or no sexual minority individuals as an adolescent or emerging adult, and grew up in an era in which explicit prejudice and violence toward sexual minority individuals was accepted (Fine & McClelland, 2006; Griffin & Ouelette, 2003; Pew Forum, 2016). Notably, whereas children of other minorities (e.g., racial minorities, religious minorities) can typically expect their parents to affirm their minority identity and provide support based upon shared group experiences, sexual minority youth are typically the offspring of heterosexual parents, who may be uncertain of how to support a non-heterosexual child.

Sexual Minority Youth Mental Health

How parents react to and support their child's sexual minority status can impact their child's mental health. An extensive body of research has found significant associations between sexual minority youths' levels of perceived family support and depression (Needham & Austin, 2010; Ryan et al., 2010); suicidality (D'Augelli et al., 2005; Liu & Mustanski, 2012; Mustanski & Liu, 2013; Needham & Austin, 2010; Peter & Taylor, 2014; Rutter, 2008; Ryan et al., 2010); self-esteem (Detrie & Lease, 2007; Ryan et al., 2010, Snapp, Watson, Russell, Diaz, & Ryan, 2015); alcohol, tobacco, and substance use (Newcomb, Heinz, Birkett, & Mustanski, 2014; Newcomb, Heinz, & Mustanski, 2012; Ryan et al., 2010; Rutter, 2008); and overall mental distress (Detrie & Lease, 2007; Shilo, Antebi, & Mor, 2015; Shilo & Savaya, 2011). Whereas a lack of family support can lead to negative outcomes, high levels of family support can serve as a protective factor against psychological distress, including suicidality. Conceptual models of sexual minority mental health posit that social support, which includes family support, is associated with positive mental health outcomes, whereas prejudice, rejection, and violence, including from one's family, are associated with negative mental health outcomes (Hatzenbuehler, 2009; Meyer, 2003).

In light of the strong link between family support and sexual minority youth mental health, researchers have called for the development of interventions that improve the relationships between sexual minority youth and their parents (Needham & Austin, 2010). Despite a substantial body of research about the significance of family support for sexual minorities, there is relatively little research about how to promote family support. Family therapy can successfully address suicidality for sexual minority youth, although it is not clear to what extent it does so by increasing family support (Diamond, Diamond, Levy, Closs, & Ladipo, 2012). Less formal resources to promote family support exist, including PFLAG, a network of support groups for family and friends of sexual and gender minority individuals, and a booklet from the Family Acceptance Project (Ryan, 2009). Although these resources may provide social support and helpful suggestions for connecting with sexual minority family members, there is little research about their efficacy. In addition, use of community resources such as PFLAG is dependent upon living in an area with access to these resources, which is less likely in rural areas, and one's willingness to be viewed as an ally or supporter of a sexual minority family member. There is a need for additional resources that assist parents of sexual minority youth in increasing their supportive behaviors. Such resources would have the potential to reduce a major risk factor of poor mental health outcomes and increase a protective factor against psychological distress for sexual minority youth.

Promoting Supportive Parenting

In seeking to promote parental support for sexual minority youth, the theory of planned behavior (Ajzen, 1991) can provide guidance about contributing factors to supportive behaviors. In this model, behaviors are preceded by behavioral intentions, an individual's plan to engage in a specific action. Behavioral intentions are influenced by a

person's attitudes toward the behavior, subjective view of the normativity of the behavior (e.g., whether others would approve or disapprove of the behavior), and behavioral control (e.g., efficacy to engage in the behavior). Thus, application of this theory toward sexual minority-supportive parenting would suggest that increasing intention to engage in supportive parenting practices, including addressing antecedents of these intentions, would increase sexual minority-supportive parenting behaviors.

Predictors of parental support behaviors vary in the extent to which they may be amenable to change in a relatively brief intervention. Self-efficacy can be promoted by verbal persuasion, vicarious experience, and performance accomplishment (Bandura, 1977), all of which can be incorporated into a brief intervention. Behavioral intentions strongly predict behaviors (see Webb & Sheeran, 2006) and may result from increases in self-efficacy and access to information about supportive behaviors. Other predictors of parent behavior may be less amenable to change in a brief intervention, including religious beliefs or perceptions of norms about sexual orientation.

Online Interventions

Online psychological interventions (OPIs) present a potential format through which to increase self-efficacy and behavioral intentions for sexual minority-supportive parenting practices. OPIs can consist of a range of activities, including psychoeducation, videos, interactive games, and self-reflection or writing activities through an intervention website. OPIs have several advantages, including the ability to reach a large number of people, being convenient for participants, and cost-effectiveness from a low marginal cost to provide an OPI to each participant (Bennett & Glasgow, 2009; Coyle, Doherty, Matthews, & Sharry, 2007; Griffiths, Lindenmeyer, Powell, Lowe, & Thorogood, 2006).

OPIs hold several advantages for an intervention targeted toward parents of sexual minority youth. First, many parents of sexual minority youth are already turning to the Internet for support. For example, Huebner, Rullo, Thoma, McGarrity, and Mackenzie (2013) recruited parents of sexual minority youth through Google advertisements for search queries such as "my child is gay" and obtained a large sample that was predominantly unconnected to sexual minority-affirming community resources. Second, OPIs are anonymous, an important consideration given the sensitive nature of this topic for many parents of sexual minority youth. Third, OPIs are accessible, of particular importance in rural areas without a PFLAG chapter or other family support group. The low cost of providing OPIs also contributes to their accessibility.

OPIs and other computerized interventions have been successfully used to address numerous aspects of parenting and sexual minority mental health. Parenting OPIs have addressed parent-adolescent communication (Villarruel, Loveland-Cherry, & Ronis, 2010), parental adjustment (Glang, McLaughlin, & Schroeder, 2007; Pacifici, Delaney, White, Nelson, & Cummings, 2006; Wade, Carey, & Wolfe, 2006), and parental self-efficacy (Glang et al., 2007; Pacifici et al., 2006). Within sexual minority populations, OPIs have successfully reduced HIV risk behaviors in men who have sex with men (Carpenter, Stoner, Mikko, Dhanak, & Parsons, 2010; Chiason, Shaw, Humberstone, Hirshfield, & Hartel, 2009; Mustanski, Garofalo, Monahan, Gratzer, & Andrews, 2013) and reduced internalized stigma, a sexual minority person's internalization of negative messages about their sexual orientation from other people and institutions (Israel, Choi, et al., 2018; Israel, Kary, et al., 2018; Lin & Israel, 2012). Other than a video to promote supportive parenting developed by Huebner et

al. (2013), there are not any OPIs to-date that have addressed parental support for sexual minority youth.

Current Study

The current study seeks to develop, implement, and evaluate an online psychological intervention—the Parent Resource for Increasing Sexual Minority Support (PRISMS)—designed to increase parental self-efficacy and behavioral intentions toward engaging in sexual minority-supportive parenting behaviors. Consistent with the theory of planned behavior (Ajzen, 1991), any increase in behavioral intentions for supportive behaviors is hypothesized to increase supportive behaviors, even if the measurement of such behaviors is beyond the scope of this study.

The strength of OPIs in general, as well as their success in parenting and sexual minority-specific interventions, suggests that there is promise in developing an OPI to increase parental support of sexual minority youth. In addition to the general strengths of OPIs, the sensitivity of this subject matter may make it a good fit for an online intervention. Some parents, particularly those who hold negative attitudes toward sexual minority populations, may be hesitant to share their child's identity with others. An online intervention would provide a confidential space in which to process one's experience as a parent of a sexual minority child, learn about and explore supportive parenting practices, and rehearse supportive parenting skills.

The current study will seek to answer the research questions outlined below. Information about the modules and mechanisms underlying each hypothesis can be found in Table 1.

1) To what extent will the PRISMS intervention increase parents' feelings of self-efficacy for demonstrating support for their sexual minority child?
2) To what extent will the PRISMS intervention increase parents' intentions to engage in sexual minority-supportive parenting practices?
3) To what extent will the PRISMS intervention be feasible and acceptable for parents of sexual minority youth, as measured by participant feedback?

II. Literature Review

Parental Influence in Sexual Minority Youth Mental Health

Parents are in a position to exert a large influence in the mental health of their children. Youth typically live with one or both parents until at least age 18, may be financially dependent upon their parents, and typically have had their relationships with their parents since birth. Support from parents can serve as a protective factor against psychological distress such as depression, whereas a hostile home environment can contribute to youth distress (Bean, Barber, & Crane, 2006; Colarossi & Eccles, 2003; Edwards, Holden, Felitti, & Anda, 2003). Likewise, supportive and abusive behaviors enacted by parents of sexual minority youth can influence youths' rates of psychological distress (Detrie & Lease, 2007; Shilo, Antebi, & Mor, 2015; Shilo & Savaya, 2011). In the psychological literature, parent support refers to emotional support and presence rather than other assistance that may be conceptualized as support, such as paying for expenses or providing necessities such as food and shelter.

Family support is associated with many specific outcomes for sexual minority youth. In a longitudinal study of predictors of suicide attempts for sexual and gender minority youth, Mustanski and Liu (2013) found that youth with low family support were more likely to experience depressive symptoms and have attempted suicide than those with high family support. Family support is also linked to self-esteem and self-acceptance of one's sexual orientation (Shilo & Savaya, 2011; Snapp, Watson, Russell, Diaz, & Ryan, 2015). Sexuality-specific parental support, as opposed to general social support, may serve as a buffer against internalized stigma, a construct itself associated with numerous negative mental health outcomes (Sheets & Mohr, 2009).

Two studies have examined the role of parental support in sexual minority youth across a range of mental health outcomes. Needham and Austin (2010) used a large sample (n = 11,153) from the National Longitudinal Study of Adolescent Health to examine relationships between mental health outcomes, sexual orientation, and parental support. They found that positive parental support mediated certain relationships between sexual orientation and mental health. For lesbian and bisexual women, positive parental support mediated the relationship between sexual orientation and suicidal thoughts and illicit drug use; for gay men, parental support partially mediated the relationship between sexual orientation and suicidal thoughts. Needham and Austin note that their findings highlight a need for intervention research designed to increase parental support.

Ryan, Huebner, Diaz, and Sanchez (2009) examined mental health outcomes in a sample of 224 White and Latino LGB young adults. They found that young adults who reported high levels of rejection from their family were over eight times as likely to report that they had attempted suicide as LGB young adults who experienced little to no family rejection. They likewise found that family rejection predicted self-reported depression, the use of illegal drugs, and engagement in unprotected sex.

Finally, it is worth noting that parents can have an indirect influence on their sexual minority children's mental health by shaping exposure to risk and protective factors. For example, a parent may serve as an advocate for their sexual minority child experiencing bullying at school, connect their child to a local sexual minority youth organization, a source of social support, or find a sexual minority-affirming therapist for their child if their child is experiencing psychological distress.

Parental Reactions to a Child Coming Out

Parental reactions to sexual minority children have changed over time. Homosexuality has been documented in ancient cultures, and although parent reactions have not been analyzed in detail, it is worth noting that numerous cultures throughout history accepted and even embraced homosexual behavior and relationships (Davis & Whitten, 1987). Although prejudice against homosexuality was also present in ancient times, it spread through heterosexist religious principles and institutional discrimination (Sullivan, 2004). The field of psychiatry contributed to the stigma of homosexuality during much of the 20th century, including the inclusion of homosexuality as a psychiatric disorder in the DSM until 1973. Psychiatrists often blamed parents for their children's homosexuality—particularly for males—suggesting that being gay resulted from mothers who discouraged their sons' masculinity or were excessively affectionate and fathers who were detached and hostile (Bieber, 1962 as cited in Friedman, 1986). One notable exception is Sigmund Freud, who in a 1935 letter to a mother seeking psychoanalysis for her gay son, stated that "Homosexuality…is nothing to be ashamed of" (Freud, 1951). During the late 20th century, the AIDS epidemic triggered new fears about losing a child who identified as gay or bisexual (Robinson, Walters, & Skeen, 1989). The beginning of the 21st century has been marked by more acceptance of sexual minority people, both on individual and structural levels (e.g., same-sex marriage, an increase in sexual minority television characters), but prejudice is still widespread (Gallup, 2016). Ultimately, parents' reactions to having a child identify as a sexual minority are, at least in part, a product of the society in which they live.

Initial research about parental reactions to having a sexual minority child focused on the parents' loss and grief. Robinson et al. (1989) surveyed over 400 parents of gay and

lesbian individuals about their initial reactions to their child's coming out and found that although 35-40% of participants endorsed such items as "shocked," and "bewildered," 10 percent or fewer endorsed neutral reactions such as "same as usual" or "does not matter." Several participants provided qualitative responses comparing having a gay child to their child dying. Ben-Ari (1995) also examined grief and loss reactions by adapting a grief and loss model to fit the experiences of 27 parents of lesbian and gay adults. Parents endorsed feelings of shock, denial, shame, guilt, anger, and rejection retrospectively and at the time of the study; all five reactions decreased over time. Ben-Ari also found that parents were more likely to acknowledge and accept their child's sexual orientation at the time of the study compared to when the child first came out. These results suggest that parents' feelings about their child's sexual orientation change, and trend in a direction of more positive feelings over time.

Other parental reactions are varied, and can be informed by relationship and cultural concerns. Saltzburg (2004), in a phenomenological analysis of parental reactions to a child coming out, noted themes such as emotional detachment from one's child and fears of estrangement, and highlighted examples of parents' lost dreams about their children. Cultural values and gender norms such as *machismo* among Latin Americans may also predict parental reactions—Latino sexual minority men report more rejecting reactions from their parents than non-Hispanic white sexual minority youth (Ryan et al., 2009). However, further research at the intersection of culture and parental reactions is needed. An additional factor in parent reactions to a child coming out is whether they previously believed that their child may be non-heterosexual: in a qualitative study of parent reactions, parents who believed that

their child may be non-heterosexual were less guarded and more likely to seek support than parents who did not consider that their child may be non-heterosexual (Goodrich, 2009).

Parental reactions can be influenced by concerns that parents have about what it means for their child to be a sexual minority. These include concerns about not having grandchildren (Heatherington & Lavener, 2008), the child experiencing discrimination or hardship within society (Conley, 2011a), the risk of AIDS or mental health concerns (Robinson et al., 1989), misalignment with religious beliefs, and concerns about how friends and other family members will perceive the parent for having a sexual minority child (D'amico et al., 2015). A model of parent adjustment to having a child come out suggests that continued family contact helps parents to overcome initial reactions to a child's sexual orientation and be more accepting (Heatherington & Lavener, 2008).

Whereas the literature has focused upon negative parental reactions, parents may—initially or after time—view having a sexual minority child as a positive part of their life. One study specifically examined positive aspects of being a parent of a sexual minority child. Gonzalez, Rostosky, Odom, and Riggle (2013) provided parents of sexual minority youth with an open-ended prompt about positive aspects of being a parent of a sexual minority person; 95% of participants provided at least one example. Using thematic analysis, Gonzalez et al. identified five themes in the results: personal growth (e.g., becoming more open-minded, developing compassion), positive emotions (e.g., unconditional love, pride), activism (e.g., involvement in PFLAG or community advocacy efforts), social connection (e.g., new friendships through PFLAG), and closer family relationships (e.g., increased closeness with the sexual minority child or other family members). To date, Gonzalez et al.'s study is the most in-depth examination of the benefits of having a sexual minority child.

Two models of parental reactions to a child's sexual minority identity disclosure highlight the holistic nature of parental adjustment, a process that occurs over a period of time and typically includes negative and positive behaviors. D'amico and colleagues developed a French-language coding system with 10 dimensions of parental reactions; an English translation of this coding system is found in D'amico et al. (2015). The 10 domains encompass difficulty accepting the identity (e.g., considering sexual minority identities abnormal, trying to change the child's sexual orientation), emotionally difficult reactions (e.g., distress, social unease, and doubts), seeking information about sexual orientation or how to be a supportive parent, direct support (e.g., expression of unconditional love, supporting the child's romantic relationships), and indirect support (e.g., standing up for one's child, speaking openly of the child's identity to others as appropriate).

Phillips and Ancis (2008) developed a framework of adjustment as a parent of a lesbian or gay child using grounded theory based upon interviews with 17 parents of a lesbian daughter or gay son. The resulting framework emphasizes three stages—early adjustment, middle adjustment, and later adjustment—and turning points that mark growth within the framework. Early adjustment is marked by emotional reactions, including shock, disbelief, and fearing for the child's safety, as well as beginning to explore what having a lesbian or gay child means morally and spiritually. Turning points for early adjustment include gaining information from anonymous resources (e.g., online) and meeting a child's partner. Middle adjustment is marked by continued steps to learn more about sexual orientation, working through perceptions that other people may have about the individual being a parent of a lesbian or gay child, coming to terms with the fact that a lesbian or gay child may not meet certain expectations that the parent has, grappling with the uncomfortable

reality that a lesbian or gay child will be subjected to a heterosexist society, and re-examining one's belief systems. Turning points for middle adjustment include continuing to learn more about sexual orientation, considering sexual orientation within the context of an overall relationship with the child, and recognizing one's personal growth. Later adjustment is marked by accepting the child for who they are and viewing having a lesbian or gay child as positive, appreciating a closer connection with the child, and becoming involved in advocacy efforts or educating other people (e.g., friends, family, or the public). A turning point for later adjustment is beginning to embrace the identity of being a parent of a lesbian or gay child.

Attitudes toward Sexual Minorities

An attitude, broadly, is a positive or negative evaluation—of an idea, identity, behavior, or other characteristic (Wood, 2000). There are two types of attitudes: explicit attitudes, of which a person is consciously aware and may be able to control, and implicit attitudes, of which a person has limited awareness and ability to control (Nosek, 2007). Most sexual minority attitude research to-date has focused on explicit attitudes. A number of demographic factors serve as broad predictors of attitudes toward sexual minority individuals, including gender (women, on average, hold more positive attitudes), religious and political beliefs (conservatism is associated with more negative attitudes), and knowing sexual minorities (Grey, Robinson, Coleman, & Bockting, 2013; Merino, 2013). Notably, parents of sexual minority youth already know a sexual minority individual—their child. However, the fact that many parents of sexual minority youth hold negative attitudes toward sexual minorities highlights the complexity of attitudes and attitude change.

Explicit attitudes toward sexual minority people within society, broadly, have improved during the last several decades. Gallup (2018) has polled Americans about sexual

minority rights regularly since 1977, and found that 75% of Americans believe that gay and lesbian relations should be legal in 2018, more than double the poll's low point of 32% in 1986 during the AIDS epidemic. Sixty-seven percent of Americans in 2018 also believed that same-sex marriage should be legal, also more than double the 27% of Americans who supported same-sex marriage when Gallup began asking about marriage equality in 1996. Generational cohort is a strong predictor of support for sexual minority rights, with Generation X—the generation most likely to be parents of sexual minority youth today—being less likely to support same-sex marriage than the younger millennial generation but more likely than baby boomers, the generation before theirs (Pew Forum, 2016).

Attitudes may change due to changes within society (e.g., legalization of marriage equality), but they can also shift due to factors in an individual's life. Allport's (1954) interpersonal contact hypothesis suggests that interpersonal contact leads to improved explicit attitudes toward another population when four conditions are met: equal status between groups, common goals, intergroup cooperation, and structural support. The fact that more sexual minority people are open about their sexual orientation today may relate to improved attitudes toward sexual minorities. A meta-analysis of sexual minority attitude change research found that interpersonal contact and education were the two strongest predictors of changes in attitudes toward sexual minority populations (Bartos, Berger, & Hegarty, 2014). Adopting the belief that sexual orientation is not a choice is especially associated with positive attitudes toward sexual minorities (Lewis, 2009).

Theoretically, attitudes are a predictor of behavioral intentions and enacted behaviors in the theory of planned behavior (Ajzen, 1991). For example, a parent who believes that being gay is unnatural or wrong would be more likely to convey disapproval toward their

sexual minority child's sexual orientation or evict them from their home. Attitudes are also related to parental adjustment to being a parent of a sexual minority child, with more positive attitudes corresponding with later adjustment (Phillips & Ancis, 2008).

Attitudes toward a sexual minority child can be influenced by societal norms, religious beliefs, pre-existing interpersonal contact with sexual minorities, and knowledge. Attitudes can also be influenced by concerns that a parent has about what having a sexual minority child means for their child or for themselves. A well-meaning parent may hold a negative and ultimately harmful attitude about their child's sexual orientation out of concern that their child will experience discrimination or difficulty having children (Conley, 2011a; Walls, 2008); this is distinct from having a positive attitude toward a child's sexual orientation while also feeling concern about the effects of a heterosexist society on one's child. Parents may also convey disapproval out of concern for what their child's sexual orientation means for their own relationships with friends and family members (Conley, 2011a).

More than a dozen measures have been developed to assess heterosexual people's explicit attitudes toward sexual minorities. In a review of 17 self-report measures of attitudes toward sexual minority men, Grey et al. (2013) identified several types of attitudes measured, including morality of homosexuality, comfort with contact with sexual minorities, behavioral aggression toward sexual minorities, support for sexual minority civil rights, religious conflict with sexual minority identities, positive but stereotypic beliefs about sexual minorities, and affirmation of sexual minority identities. Many measures of attitudes toward sexual minorities assess attitudes toward sexual minority women and men separately. Few measures of attitudes toward lesbian and gay people are inclusive of bisexual people,

although some bisexual-specific attitude measures have been developed (e.g., Mohr & Rochlen, 1999). One notable example of an attitudes scale that is inclusive of a range of sexual orientations is the Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals (LGB-KASH; Worthington, Dillon, & Becker-Schutte, 2005). An additional measure of explicit attitudes toward sexual minorities is the feeling thermometer, which asks users to rate their warmth toward sexual minorities on a 101-point scale (Herek, 2000). There are also implicit measures of attitudes toward sexual minorities that may be able to assess attitudes while minimizing social desirability effects (see Banse, Seise, & Zerbez, 2001).

Supportive and Unsupportive Parenting Behaviors

Parents and primary caretakers have a large influence in their child's development and well-being. The extent to which parents are involved with and supportive of their children can influence a range of youth outcomes, including academic achievement, self-esteem, and substance use risk (Desforges & Abouchaar, 2003; Parker & Benson, 2004).

The body of research establishing parental support and related constructs (e.g., social support) as predictors of sexual minority youth outcomes has largely used general, non-sexual orientation specific measures of support. Multiple studies have measured parent support using three items from the National Longitudinal Study of Adolescent Health: being warm and loving, fostering a close relationship with the child, and doing enjoyable activities with the child (Needham & Austin, 2010; Thoma & Huebner, 2014). Saewyc et al. (2009), in a study of protective factors in bisexual adolescents, similarly measured general supportive practices including a child's perception of being cared about, understood, and paid attention to. General parenting support, such as expressing love and concern for the child's well-being,

has also been included in a qualitative coding scheme of parental reactions to a child's sexual orientation (D'Amico et al., 2015).

A number of LGB-specific supportive parenting behaviors have also been identified in the literature. Broadly, these fall into three categories: direct support for the sexual minority child, support for the child's same-sex relationships and sexual minority friends, and advocacy for the child within family and community networks. These supportive parenting behaviors come from a range of sources, including resources from the Family Acceptance Project, a qualitative analysis of parent reactions to having a sexual minority child, and a qualitative analysis of mother-child discussions about sexual orientation.

First, direct support includes direct contact with the child conveying acceptance of their sexual orientation and support for challenges the child may be experiencing related to it. Most traditionally, this includes a willingness to discuss sexual orientation, gender expression, and the identity exploration process—both the child's experiences and discussing these topics more generally, e.g., in the news (Nesmith, Burton, & Crosgrove, 1999; Ryan et al., 2010). Acknowledging the presence of heterosexism within society, its impact on a child, and helping a child to navigate through this, may also convey support (Harkness, 2016). As part of helping a child to navigate a heterosexist society, a parent may acknowledge the child's potential and/or instill hope, such as through communicating that they can lead a happy life, work in a range of careers, or have children if they wish to (Harkness, 2016; Ryan et al., 2010). Finally, parents may connect their children with sexual minority media or attend an LGB community event such as Pride with their child (Nesmith et al., 1999; Ryan et al., 2010).

Second, support for the child's same-sex relationships and sexual minority friends encompasses how the parent treats sexual minorities within the child's social network. Validating a sexual minority child's romantic relationships has been frequently cited as an important way that parents can demonstrate that they are supportive of their child's sexual orientation (D'Amico et al., 2015; Nesmith et al., 1999; Ryan et al., 2010). In addition, parents can demonstrate support by similarly welcoming a child's sexual minority friends into their home (Ryan et al., 2010).

Third, advocacy for the child within family and community networks encompasses how the parent promotes respect and responds to mistreatment in a range of personal relationships and societal institutions. This includes encouraging family members and friends to be respectful of the sexual minority child (Ryan et al., 2010) and standing up to heterosexist comments that the parent encounters (D'Amico et al., 2015; Nesmith et al., 1999). Within societal institutions, this may include advocating on behalf of one's child, as appropriate, in schools (e.g., in response to bullying) and taking steps to promote LGB-inclusive religious communities (Ryan et al., 2010). Although a parent's advocacy efforts may not always have their desired effect (e.g., a school that ignores bullying despite a parent's pleas), a child may perceive parental support when aware of their parent's efforts.

Two additional strategies can help parents to be supportive but do not fit neatly into the above categories. One is the act of seeking information and advice when one wants relevant information (e.g., about outcomes for sexual minority youth) or is unsure of how to address a situation (D'Amico et al., 2015). For example, a parent may speak with an allied friend, attend a PFLAG meeting, or conduct an Internet search. Second is for a parent to find a safe outlet through which to express any pain or discomfort they are experiencing related to

their child's sexual orientation (Huebner et al., 2013). A journal, private conversation, or therapy may help a parent meet these needs. By attending to their adjustment process in this way, parents may be less likely to express discomfort related to their child's sexual orientation in the presence of their child. Huebner et al. encourage parents to demonstrate support throughout their adjustment process rather than waiting until they feel fully comfortable with their child's identity.

Psychological research has also identified several parenting practices that are unsupportive of or rejecting toward sexual minority youth. Some parents convey overt prejudice related to their child's sexual orientation, including evicting a child from their home, physical abuse, and verbal harassment (Nesmith et al., 1999). These drastic reactions are associated with sexual minority youth homelessness and heightened risk of negative psychological outcomes (Durso & Gates, 2012). A parent may also engage in sexual orientation change efforts, such as taking their child to conversion therapy. Conversion therapy is associated with negative psychological outcomes such as depression, loss of social support, and delays in developmental processes related to identity exploration and coming out (Shidlo & Schroeder, 2002).

More pervasive are microaggressions: brief actions that convey disapproval of or hostility toward a person's sexual orientation (Nadal et al., 2011). Nadal et al. surveyed 26 sexual minority youth and developed a coding scheme with eight themes of microaggresions that parents enact on sexual minority youth. These include conveying verbal or nonverbal discomfort or disapproval of the child's sexual orientation or sexual minority identities in general, suggesting that sexual minority identities are pathological or 'just a phase,' promoting heteronormative culture, and denying the existence of heterosexism within

society. Other microaggresions identified in psychological research include avoiding discussion about the topic of sexual orientation, stating a desire for the child to "return to heterosexuality," discouraging a child from coming out, and placing an excessive emphasis on HIV/AIDS or safe sex (D'Amico et al., 2015; Harkness, 2016; Nesmith et al., 1999). Participants in Nadal et al.'s study reported mental health effects of microaggressions, including anxiety and diminished self-esteem. Notably, microaggressions can be intentional or unintentional and are sometimes well-meaning. For example, a parent may discourage their child from coming out at school to avoid bullying, a suggestion that a child may interpret as being asked to hide who they are.

Parental Self-Efficacy

Self-efficacy, first proposed by Albert Bandura, encompasses "self-perceptions of one's behavioral competency or ability to execute specific actions in certain situations" (Coleman & Karraker, 1998, p. 49). Bandura's (1977) eminent theory outlines three dimensions of self-efficacy: magnitude, the level of efficacy based upon the difficulty of the task; strength, the level of endurance or extinguishability of efficacy; and generality, the extent to which self-efficacy generalizes to related tasks. Bandura also outlined four sources of self-efficacy: personal accomplishment history, vicarious experience (e.g., watching others achieve success), verbal persuasion of efficacy, and emotional arousal (e.g., relaxation or desensitization in response to anxiety). During the past 40 years, research about self-efficacy has encompassed a broad range of topics such as learning, athletics, computer skills, healthy eating, and smoking cessation (Bandura, 2006).

Parental self-efficacy is a parent's self-perception of competency or ability as a parent. Jones and Prinz (2005) propose three types of parental self-efficacy: task-based (e.g.,

self-efficacy in toilet-training a toddler), narrow domain (e.g., self-efficacy in communicating with one's child), and global (level of overall self-efficacy across parenting domains). Parental self-efficacy may arise from parents' childhood experiences, the microsystem in which the parent and child exist, and past experiences with children (one's own child and other children; Coleman & Karraker, 1998). Parental self-efficacy is not a static variable, but rather can change in response to parental changes, changes in the child, and changes in their microsystem. For example, parental self-efficacy decreases as a child goes through adolescence, possibly because the child has more freedom and the parent has less control (Glatz & Buchanan, 2015).

Parental self-efficacy is associated with outcomes for both parents and their children. In a review of the literature about parental self-efficacy, Jones and Prinz (2005) found that parental self-efficacy was associated with a variety of parental behavioral outcomes, including involvement, warmth, perspective-taking, and limit-setting, as well as greater satisfaction as a parent. Parental self-efficacy is also associated with various youth outcomes, including school success, lower substance use, less delinquent behavior, and psychosocial adaptation (Bogenschneider, Small, & Tsay, 1997; Steca, Bassi, Caprara, & Fave, 2011). Steca et al. conducted a longitudinal study of Italian adolescents, with observations spaced four years apart. Compared to adolescents of parents with low parental self-efficacy, adolescents whose parents had high parental self-efficacy experienced higher academic self-efficacy, higher satisfaction with life, lower depressive symptoms, less aggression, and a greater sense of freedom. One limitation of the literature about parental self-efficacy and child outcomes is the possibility of a third variable (e.g., a genetic predisposition to depression that explains low parental self-efficacy and certain adolescent outcomes).

Because parental self-efficacy is changeable and associated with child outcomes, it has been a strong target for intervention research. Several studies using a Triple P intervention—a range of brief, positive psychology-informed parenting interventions for addressing child behavioral problems—have found increases in parental self-efficacy at the conclusion of the interventions (Tully & Hunt, 2016). A study of The Parent Project, a 10-week intervention for parents of adolescents at risk of substance use, found an increase in parental self-efficacy for preventing teenage substance use (Doumas, King, Stallworth, Peterson, & Lundquist, 2015). An intervention for parents of adolescents with eating disorders, which included a two hour psychoeducational session and biweekly phone support from a nurse, was associated with increases in parental self-efficacy for helping a child with an eating disorder, as well as increased knowledge of eating disorders and increased help-seeking behaviors, relative to a control (Spettigue et al., 2015).

A small number of interventions have sought to increase parental self-efficacy related to topics of sexuality. Prior research has found that parent knowledge about sexuality is the biggest predictor of parental self-efficacy in communication about sexuality with children (Morawska, Walsh, Grabski, & Fletcher, 2015). The bulk of intervention research has sought to increase parental self-efficacy for communication with a child about sex (see Forehand et al., 2007; Guilamo-Ramons et al., 2011; Weekes, Haas, & Gosselin, 2014). Weekes et al., for example, successfully increased parental self-efficacy for talking about sex with a son in a sample of African American parents. Their intervention included psychoeducation provided through audio CDs, flashcards to jumpstart conversation about teen pregnancy and sexually transmitted infections, and an in-home activity to complete with the son.

Much less is known about self-efficacy for parenting a sexual minority child or communicating about sexual minority topics with one's child. One study (described in detail later in this chapter) used a 35-minute film with an emphasis on families with sexual minority youth and compared parental self-efficacy before and after watching the film (Huebner, Rullo, Thoma, McGarrity, & Mackenzie, 2013). They measured parental self-efficacy with a single item ("How confident are you that you can be a good parent to an LGB child?") on a five-point Likert scale anchored with "not at all" (1) and "extremely" (5). They found significantly higher parental self-efficacy after watching the film compared to baseline. Beyond Huebner's study, there are a small number of mentions of sexual minority-related parental self-efficacy in qualitative research (e.g., Philips & Ancis, 2008). Given the importance of parental self-efficacy in parent and child outcomes, there is a need for further research about self-efficacy for parenting a sexual minority child. Such research may draw on the somewhat larger body of literature about therapist self-efficacy for working with sexual minority clients, which includes multiple measures and correlational studies (see Bidell, 2005; Dillon & Worthington, 2005).

Although there are numerous scales used to measure parental self-efficacy (see Coleman & Karraker, 1998), there is currently no published tool to measure parental self-efficacy for supporting a sexual minority child. Because studies of self-efficacy encompass efficacy beliefs for specific behaviors or tasks, it is common for researchers to construct their own measure of self-efficacy for their study (Bandura, 2006).

One sexual minority-related self-efficacy scale exists: the Lesbian, Gay, and Bisexual Counseling Self-Efficacy Inventory (LGB-CSI; Dillon & Worthington, 2003). The LGB-CSI consists of five subscales: knowledge, advocacy skills, awareness, assessment, and

relationship. Another counseling measure, the Sexual Orientation Counselor Competency Scale (Bidell, 2005), contains three items related to self-efficacy for counseling sexual minority clients. These scales may provide guidance in the development of a parental self-efficacy scale for parents of sexual minority youth.

Behavioral Intentions

Behavioral intentions are plans to engage in a behavior and are viewed as an immediate antecedent to behavior itself (Ajzen, 1991). Notably, behavioral intentions and self-efficacy are separate constructs—a person may feel confident in their ability to use a supportive parenting strategy (e.g., watch an LGB-related movie with their child) but report that they are unlikely to take such action. Behavioral intentions are linked to behavioral actions: in a meta-analysis of 47 psychological studies, medium and large changes in behavioral intentions were associated with small and medium changes in behaviors (Webb & Sheeran, 2006). The theory of planned behavior (Ajzen, 1991) highlights the relationships between intentions, actions, and other variables. Briefly, beliefs about and attitudes toward a behavior, perception of social norms, and perception of behavioral control predict behavioral intentions. Behavioral intentions, in turn, predict behavior, but may be affected by actual behavioral control when this differs from perceived behavioral control.

Behavioral intentions have been measured in a variety of parenting domains, including engagement in drug-prevention behaviors (Stephenson, Quick, Atkinson, & Tschida, 2005), discipline practices (Ritchie, 1999), use of child restraint devices in automobiles (Richard, Dedobbeleer, Champagne, & Potvin, 1994), and advocacy for a special needs child (Glang, McLaughlin, & Schroeder, 2007). One study examined

behavioral intention to change parenting practices, broadly, following an HIV-prevention workshop (Kulik, McNeill, Murphy, & Iovan, 2016).

Behavioral intentions have also been a key outcome measure for sexual minority trainings for service providers. One study assessed behavioral intentions of psychologists, school counselors, and teachers to intervene in response to anti-LGB harassment (McCabe, Rubinson, Dragowski, & Alizalde-Utnick, 2013). McCabe et al. used two items created for their study to assess for this construct, and found that attitudes about sexual orientation and perceived norms about sexual orientation predicted behavioral intentions. Another study found that health and social service providers reported increased behavioral intentions to provide LGB-supportive services following educational trainings that involved skill development (Craig, Doiron, & Dillon, 2015). Elder service providers who completed a sexual minority cultural competency training reported greater behavioral intention to challenge homophobic and transphobic jokes at post-test compared to pre-test (Porter & Krinsky, 2014).

Although there is research about specific sexual minority-supportive parenting practices, a review of the literature did not yield any studies that measured parents' intentions to engage in these practices. Likewise, there are no measures of behavioral intentions to engage in supportive parenting practices for sexual minority children. The development of behavioral intentions measures is frequently specific to a particular study and may draw support from the work of Ajzen (2006). Ajzen's suggestions for developing behavioral intention questionnaires include guidance for defining the planned behavior, formulating items, and instrumentation.

Online Psychological Intervention Research

Online psychological interventions (OPIs) are psychological treatments provided through the Internet. OPIs encompass a broad range of modalities, including static websites, interactive websites, videos, and interaction within a forum. OPIs have a number of strengths, including the ability to serve a large number of people at one time, being convenient to participants, and ease of recruitment for research (Griffiths, Lindenmeyer, Powell, Lowe, & Thorogood, 2006; Kraut et al., 2004). OPIs also have the potential to be cost-effective: whereas most of the cost of psychotherapy is in providing service and time, the costs of OPIs lie primarily in their development and initial dissemination, with a low marginal cost for each additional user (Bennett & Glasgow, 2009). OPIs are also accessible: 84% of American adults, including the vast majority of Americans within nearly every demographic category, regularly used the Internet in 2014 (Perrin et al., 2015).

Beyond the general strengths of OPIs, there are advantages to providing services to sexual minority communities via online interventions. The anonymity of the Internet can make the Internet an attractive resource for parents who are reluctant to disclose their child's sexual orientation: there is evidence that individuals are more likely to share sensitive information via an anonymous OPI than in psychotherapy (Coyle et al., 2007). Parents of sexual minority youth who lack access to an LGB-affirming therapist or sexual minority family organizations such as PFLAG (e.g., in rural areas) may especially benefit from a parent resource that was developed to be explicitly sexual minority-affirming.

Existing research about OPIs is encouraging. A meta-analysis of OPIs found a medium effect size (0.53) comparable to that of in-person psychotherapy (Barak, Hen, Boniel-Nissim, & Shapira, 2008). OPIs have successfully been targeted toward diverse

psychological issues such as depression (Andersson et al., 2005), alcohol use (Elliott, Carey, & Bolles, 2008), and panic disorder (Andrews, Cuijpers, Craske, McEvoy, & Titov, 2010). Regarding parenting specifically, a meta-analysis of OPIs targeted toward parents found, on average, a medium effect size (0.38) for parent outcomes when correcting for studies that did not use a control group (Nieuwboer, Fukkink, & Hermanns, 2013). (Most of the parenting studies in the meta-analysis were for parents of children under age 12.) OPIs have also been successfully used to serve underserved and isolated populations, such as ethnic minority and rural individuals, regarding a range of issues such as social support, smoking cessation, and weight management (Brage-Hudson, Campbell-Grossman, Keating-Lefler, & Cline, 2008; Orleans et al., 1998; Stoops et al., 2009; Williamson et al., 2005).

A small number of OPIs have been developed to serve sexual minority populations. These have been primarily limited in scope to two areas: the reduction of HIV and STD risk behaviors in men who have sex with men (MSM) and interventions to reduce internalized stigma. Two OPIs to successfully reduce HIV risk behaviors included tailored feedback for participants, interactive modules using different mediums through the OPI (e.g., video, quizzes, skill training), and allowed participants to complete the modules at their own pace (Carpenter, et al., 2010; Mustanski, Garofalo, Monahan, Gratzer, & Andrews, 2013). Lin and Israel (2012) developed an OPI that successfully reduced internalized sexual orientation stigma in same-sex attracted men. Lin and Israel's intervention included psychoeducational material to dispel sexual orientation myths, reflection activities in participants considered the sources of negative sexual orientation messages and how they overcame any such messages that they rejected, and a series of written and visual activities affirming sexual minority identities. Modified versions of Lin and Israel's intervention framework for lesbian women

and bisexual individuals were also associated with lower internalized stigma relative to a control (Israel, Choi, et al., 2018; Israel, Kary, et al., 2018).

OPIs and other computerized interventions have also been successfully used to support families with a range of concerns, including communication with an adolescent (Schinke, Fang, & Cole, 2009), behavioral concerns (Breitenstein, Gross, & Christophersen, 2014; Pacifici et al., 2006), limit-setting skills with young children (MacKenzie & Hilgedick, 2000), promoting child safety behaviors (Nansel, Weaver, Jacobson, Glasheen, & Kreuter, 2008; van Beelen, Beirens, den Hertog, van Beeck, & Raat, 2014), advocacy skills for parents of children with disabilities (Glang et al., 2007), and coping for parents whose child suffered a brain injury (Wade, Carey, & Wolfe, 2006). As a whole, the literature on parent OPIs has focused on supporting young children and developing parenting skills.

One computerized intervention has been developed to increase the availability of parental support for adolescents. Villarruel, Loveland-Cherry, and Ronis (2010) developed a computer-based intervention to increase communication about sex for Latino parents of adolescents. The intervention consisted of two sessions on a computer with a video, psychoeducation, examination of beliefs, and skill building exercises. Compared to a wait-list control, intervention participants reported greater general communication, sexual communication, and comfort with communication at a three-month follow-up.

To-date, there is just one OPI for family members of sexual minority youth: Huebner et al.'s *Lead with Love* video intervention (described in the following section). The success of OPIs with sexual minority populations and families working on a range of tasks suggests promise in the development of a resource for parents of sexual minority individuals. The

development of this intervention can draw from the successes of OPI research with both of these populations.

Existing Interventions for Parents of Sexual Minority Youth

Although the literature about sexual minority mental health and changing attitudes toward sexual minorities is robust, there are only a handful of intervention studies that seek to change parental behaviors toward sexual minority offspring or self-efficacy for being a parent of a sexual minority child. Among published studies, a majority focus on family therapy. One additional innovative study used a film, *Lead with Love*, as an intervention for parents.

Woodward and Willoughby (2014) conducted a systematic review of the literature about family therapy with sexual minority youth and their parents. They found 15 articles about family therapy with sexual minority youth and their parents—most theoretical rather than empirical—encompassing a variety of theoretical orientations. They identified four key themes in the literature. The first is what it means for a parent when their child comes out. Although several studies have used grief and loss models to conceptualize parental reactions to a child coming out, they note that this could be harmful for youth in the therapy room by viewing their sexual orientation as a deficit. The second and third themes are to include parent-only sessions to provide a space for parents to express any negative views toward sexual minorities and their difficult feelings about having a child come out, and to include parental psychoeducation about sexual orientation. The final theme was youth support, including providing explicit support to the sexual minority child about their sexual orientation, providing support for other areas of stress in their life, and providing adjunctive individual sessions with the sexual minority child as necessary. Based upon the literature

reviewed, Woodward and Willoughby noted potential strategies for family therapy with sexual minority youth, including communication training, cognitive strategies to address parental anti-LGB attitudes, and finding ways to validate each person's point of view. For example, a family therapist may help parents find ways to express their concerns without being invalidating of their child's identity.

Among the 15 studies reviewed, two offered empirical findings. Diamond et al. (2012) modified a procedure for attachment-based family therapy for use with suicidal sexual minority youth; one notable modification was the inclusion of additional sessions with the parents only (three to five) to provide parents a space to process feelings such as shame and disappointment and be prepared to productively engage in family therapy. Diamond et al. tested the modified therapy with 10 sexual minority adolescents who had been admitted to a psychiatric hospital. The model consisted of time spent together as a family, with foci on strengthening family relationships and processing past ruptures in family relationships, as well as individual work for the adolescent and parents (e.g., processing feels of shame). The eight sexual minority youth who completed the study all experienced decreases in suicidal ideation.

The one other study to provide empirical support for family therapy is a case study using brief cognitive behavioral family therapy with a married couple and their 18-year-old gay-identified son (Willoughby & Doty, 2010). The intervention consisted of an intake session and six therapy sessions. The parents were present for all sessions and the adolescent for the final two sessions; like Diamond et al. (2012), Willoughby and Doty provided substantial time for parents to process their negative reactions away from their child and practice supportive parenting skills. The brief cognitive-behavioral family treatment included

identification of automatic thoughts and challenging automatic thoughts related to the son's sexual orientation, exposure to "provocative" topics, and communication practice between the parents and son. Willoughby and Doty assessed this brief CBT with a measure of relational functioning, and found substantial gains in the family's relational functioning between the beginning and end of treatment.

A small number of other traditional therapy options exist but without empirical support. Menvielle, Tuerk, and Jellinek (2002) created a support group for parents of gender non-conforming boys, which included support with grieving the loss of an assumed heterosexual/gender-conforming child and working through stigma such as disclosure of the child's gender non-conformity. Saltzburg (2007) delineated ways in which narrative therapy could assist parents of sexual minority adolescents, including through examining the structural origins of heterosexist beliefs, re-authoring parenting narratives, and using definitional ceremonies. These interventions may hold promise but require research to evaluate their efficacy.

Besides therapy, another common resource to increase family support is PFLAG, a network of 385 community support groups for parents and friends of sexual and gender minorities. Although parents have cited PFLAG as a helpful resource in interviews as part of qualitative research about parental reactions to having a sexual minority child (see Phillips & Ancis, 2008), little is known about how PFLAG affects self-efficacy or behavioral intentions related to supporting a sexual minority child. However, several studies about parents of sexual minorities have drawn samples exclusively from PFLAG, providing information about who specifically PFLAG is reaching. Conley (2011b) sampled 350 PFLAG members in a study about parental concerns about a child's sexual orientation. The sample was racially

homogenous (95% Caucasian), skewed regarding gender (84% women), had a median household income above the national average ($62,500), and was highly educated. Although PFLAG may be a beneficial source of support, further research is needed to better understand the extent to which PFLAG is helpful and for whom.

Beyond traditional interventions, Huebner et al. (2013) created a 35-minute video, *Lead with Love*, to promote acceptance of sexual minority family members. The movie consisted of parents and grandparents describing their child coming out and how they overcame their initial negative reactions, stories of sexual minority youths' parental rejection, information about the adverse mental health effects of parental rejection, and behavioral recommendations for parents. Huebner et al. recruited participants via Google advertisements (e.g., an ad displayed when a parent searched "my child came out as gay") to reach participants who were not connected to traditional support organizations such as PFLAG. A sample of over 1800 parents of sexual minority children under 25 (or children parents believed were non-heterosexual) watched *Lead with Love* and completed a follow-up survey; the parents represented a diverse sample (26% ethnic minority) and 21% had a child come out within the past month. A majority (72%) of parents found the video to be very or extremely helpful; two percent reported that the video was unhelpful. Parents were asked about their confidence in being a good parent to an LGB child on a Likert scale ranging from not at all (1) to extremely (5) both before and after the video. Parenting confidence rose significantly ($p < 0.0001$) at post-test.

Although the literature about support and self-efficacy interventions for parents of sexual minority youth provides some support for changing parent attitudes and self-efficacy, there are several limitations. Research about family therapy has relied on small samples, and

it is not clear what specific aspects of family therapy are effective for parents of sexual minority youth. Family therapy has been the main focus of family intervention research, but is not always viable due to parental reluctance to discuss their child's sexual orientation with others (including a therapist or other family members) and cost (Woodward & Willoughby, 2014). The need for a space to process reactions and concerns away from the child has been identified in several studies. There is a need for further research about family interventions that can reach parents who cannot or choose not to access family therapy.

III. Method

Intervention Development Process

The development of this intervention was guided by intervention mapping, a systematic process of developing psychological and behavioral interventions. There are six stages of intervention mapping: needs assessment, create matrices, develop theory-based methods and practical strategies, design and create the program, adopt and implement plan, and develop an evaluation plan (Kok, Harterink, Vriens, de Zwart, & Hospers, 2006). Although the author used intervention mapping for guidance regarding input from members of the target population and outlining the intervention goals, the order in which these steps were completed was adapted to best suit the current study. Below is an explanation of each step.

Needs assessment. A needs assessment serves as an opportunity to identify the target population and their psychological needs (Kok et al., 2006). The first stage of the needs assessment involved examining psychological literature about parent support, and noting the call for intervention research to increase parent support (e.g., Needham & Austin, 2010).

***Meeting with parents and youth*.** The researcher met with five parents of sexual minority individuals to seek feedback about their needs; demographic information was not collected. During these meetings, the researcher presented an outline of the PRISMS intervention, provided examples of proposed activities in the PRISMS intervention, and sought feedback (see Appendix A for a list of questions). Further information about parent needs that were expressed during this stage is described in the Results chapter. In order to better understand the needs of sexual minority youth, the researcher also attended an LGBTQ

youth group meeting as an invited guest; the topic of discussion was relationships with parents.

Create matrices. During this stage of intervention development, the researcher specifies expected changes in behavior from the intervention and develops learning objectives (Kok et al., 2006). The author selected outcome variables based upon the literature review: behavioral intentions and parental self-efficacy. The author used a modified version of Kok et al.'s matrix framework to highlight projected changes and determinants of those changes. Briefly, the framework highlighted five behavioral aspirations of the intervention. As these outcomes could not be directly assessed by this project, the matrix was conceived as a way of identifying intentions to engage in these behavioral outcomes. The framework also included a description of the necessary conditions for four determinants of each projected outcome: attitudes, norms, self-efficacy, and knowledge. Information about the determinants of these outcomes informed the development of the modules; more emphasis was placed on determinants that were amenable to change through a brief intervention (e.g., self-efficacy, knowledge) than determinants that were less likely to be impacted (e.g., norms). For the full matrix, see Appendix B.

Theory-based methods and practical strategies. During the third stage of intervention mapping, the researcher selects an intervention methodology and strategies for implementing the methodology (Kok et al., 2006). An experimental design was specified (see p. 62) with modules informed by Bandura's self-efficacy theory and Ajzen's theory of planned behavior.

Design and create program. During this stage, the researcher uses the previously developed outline to develop detailed scripts for each module and develop the online

intervention delivery environment (Kok et al., 2006). For the PRISMS intervention, this included writing module text, developing videos, and making aesthetic decisions based upon existing literature and feedback from parents during the needs assessment. During this stage, the researcher also sought continued feedback to revise a draft version of the intervention.

Expert feedback. After the intervention had been developed, the author sought feedback about the intervention and materials. Experts selected for research background had a Ph.D. in psychology or a related field and had meaningful contributions to the literature about parenting LGBTQ youth, parental self-efficacy, or behavioral intentions. Experts selected for mental health expertise were licensed mental health professionals who had a background in serving LGBTQ communities. A total of 12 experts with a research background relevant to this study were contacted, of which three provided feedback. Two mental health professionals with a background in serving LGBTQ communities and members of an LGBTQ-affirming therapy organization's listserv were contacted, of which one person provided feedback. Experts were asked to review the intervention materials and, following each module and at the end of the intervention, provide qualitative feedback about the content and potential effectiveness of the intervention. The author considered expert feedback when making revisions to the intervention. This strategy has been employed in other online intervention research serving sexual minority communities (e.g., Israel, Choi, et al., 2018; Israel, Kary, et al., 2018; Lin & Israel, 2012). For a list of questions asked of experts, see Appendix C.

Usability testing. Usability testing is a process of improving a product by observing users' interaction with the product and seeking feedback about their experience with the product (Dumas & Redish, 1999). It has been used in the development of a variety of online

services for psychological and health management purposes (e.g., Long & Palermo, 2008; Stinson et al., 2010; Vonken-Brewster et al., 2013). After all intervention materials were developed, parents of sexual minority individuals were asked to complete the PRISMS intervention in the presence of the researcher. After each module and after the conclusion of the intervention, participants were asked to provide oral feedback about the intervention, including the helpfulness of the content, their level of engagement with the intervention, and the level of challenge. For a complete list of questions asked during usability testing, see Appendix D.

Pilot testing. A pilot test was conducted with members of the target population to examine the feasibility and acceptability of the study from beginning to end, including identifying any concerns regarding pre- and post-test aspects of the study, and to verify that technical aspects of the survey worked (e.g., random assignment, survey logic). Adherence with the intervention or control condition, participant attrition, and time of completion were all examined (Leon, Davis, & Krameer, 2011). All feasibility and acceptability items that were initially intended for the pilot test were retained for the efficacy study, and are described below. Initial plans, based upon guidelines for scale development from Johanson and Brooks (2009) called for 24 parents of sexual minority youth to complete the pilot test—12 intervention and 12 control. Challenges with recruitment affected this goal and a decision was made to proceed with fewer pilot test participants. Although a pilot test can assess the feasibility of a recruitment strategy, participants were recruited through community organizations, social media, and personal connections to preserve limited funding resources.

Proofreading. Graduate students and recent graduate students with research expertise in serving LGBTQ communities were asked to complete the study as if they were a member

of the target population. Proofreaders were asked to note errors or problems with the study, including grammar or punctuation mistakes, survey logic errors, or omissions. Feedback from proofreaders was integrated into revisions of the study.

Adopt and implement plan. During this stage of intervention mapping, the researcher specifies how the intervention will be delivered (Kok et al., 2006). This study used Qualtrics, an online survey website capable of integrating interactive modules and tailoring logic, to host the intervention. Information about recruitment is presented later in this chapter.

Develop evaluation plan. During the final stage of intervention mapping, the researcher outlines ways in which they will evaluate the feasibility and acceptability of the intervention (Kok et al., 2006). Measures were selected to assess parental self-efficacy, behavioral intentions, hypothesized covariates, and the acceptability of the intervention, and are described later in this chapter.

Participants

Participants were U.S. parents, legal guardians, and primary caretakers of youth ages 13-18 who either 1) identify as lesbian, gay, bisexual, questioning, or otherwise non-heterosexual, or 2) believed that their child was likely non-heterosexual. In selecting age criteria, two important considerations, discussed below, were the age that sexual minority youth come out to their parents and how likely youth of a given age are to live with their parents.

Sexual minority youth, for the purposes of this study, were those ages 13-18. This decision was based upon three considerations: existing research with sexual minority youth, the ages at which youth come out, and a person's likelihood to live with their parents.

Although most definitions of sexual minority youth encompass adolescents, there is not a consensus for the minimum and maximum ages encompassed in the term "youth." The Trevor Project (2016), a leading online resource for sexual and gender minority youth, defines LGBT youth as ages 13-24. Many studies of sexual minority youth in schools use a narrower range, bound by the age of the oldest high school students (e.g., Kosciw, Greytak, Palmer, & Boesen, 2013). Among intervention research for parents of sexual minority youth, the two studies with multiple participants had different definitions. Diamond et al. (2012), who focused on adolescents specifically, included families with sexual minority youth ages 14-18. Huebner et al. (2013), who included parents of youth who identified as a sexual minority or believed that their child was non-heterosexual, defined youth as under 25; over 96% of the children identified were at least 10-years-old and 87% were at least 15-years-old.

It is important that the definition of sexual minority youth encompass a majority of youth who come out. Whereas previous cohorts of sexual minority individuals typically first came out during their 20s, more recent cohorts of sexual minority individuals on average come out while in adolescence (Dunlap, 2016; Grov, Bimbi, Nanín, & Parsons, 2006; Russell & Fish, 2016). Dunlap found that a cohort of sexual minority individuals born from 1988-1992 came out to family at the average age of 17.2 for females and 17.3 for males, respectively, with standard deviations of 2.2 and 1.9. A minimum age of 13 allows for inclusion of parents of females who came out about two standard deviations below the average age for females.

A maximum age of 18 was selected for two reasons: the likelihood that an individual will live with their parents and the use of this age in other sexual minority research and services. Whereas nearly all youth under 18 live with their parents, only slightly more than

half of 18-24 year-olds (59% of women and 51% of men) lived with their parents in 2012 (Vespa, Lewis, & Kreider, 2013). Although sexual minority individuals older than 18 years are likely affected by their parents' level of support, an age of 18 years was selected as a maximum cutoff because youth are less likely to live with their parents after this age. Of note is that Vespa et al.'s findings were for the general population, and that likelihood of living with parents may vary for sexual minority youth (e.g., a sexual minority individual may be more likely to move out as a young adult if their home environment is non-affirmative). Finally, age 18 years was selected as a maximum age in order to allow parents of high school students to participate even if their child had already turned 18-years-old.

Parents and primary caretakers of youth who they believe may be non-heterosexual, but who have not come out, were included because support for a child's sexual orientation can be beneficial both before and at the moment a child comes out. In addition, this represented a sizable group that may ultimately benefit from the dissemination of this intervention; in Huebner et al.'s (2013) *Lead with Love* study, more than one in five parent participants believed, but did not know, that their child was non-heterosexual.

Demographics. A total of 268 participants consented to participate in the study. Among these participants, 11 did not complete any items after providing consent. Three participants were excluded for not meeting eligibility criteria, including two who did not report being the parent or primary caretaker of a sexual minority or possibly sexual minority child age 13-18, and one who reported that their LGB child does not live with them. An additional five participants reported being the parent of a sexual minority child who also identified as transgender and chose to access an alternative resource for parents of transgender youth instead of continuing with the study. Twenty participants dropped out after

completing some or all of the preliminary measures but before reaching the intervention or control condition, and seven participants dropped out after reaching the intervention (3) or control (4) condition. Validity checks were performed for the 222 participants who completed the study. Three participants who both reported that they took the study "somewhat seriously" and failed an attention check item in the parental self-efficacy measure were removed; no participants reported not taking the study seriously, but would have been removed at this step if they did. A validity check was also performed by subtracting the age at which the parent first believed their child to be LGB (which participants reported at the end of the study) from their child's age (which participants reported at the beginning of the study); if the result was a negative number, the participant's entry was to be removed. All participants passed this validity test. This left a total of 219 participants who were included in the analyses, including 114 intervention participants and 105 control group participants. For additional information, see Figure 1.

Among participants included in analyses, the mean participant age was 42.09, with a median of 42 and a range of 25-60 years. Twenty-five was below the expected age of parents of teenagers, but it is possible that a step-parent or older sibling who serves as a primary caretaker may have met study criteria; the next youngest participant was 30. Participants identified their race/ethnicity as Caucasian/White (83%, n = 181), African American/Black (13%, n = 28), Latina/o (6%, n = 14), Asian (1%, n = 3), and Native American/Alaska Native (1%, n = 3); participants could select multiple responses. Slightly more than one in five participants (21%, n = 47) identified with a racial or ethnic minority group. A majority of participants identified as women (73%, n = 160), with a minority identifying as men (26%, n = 57). Most participants identified as heterosexual (87%, n = 190), with smaller numbers

identifying as bisexual, pansexual, or queer (8%, *n* = 17), lesbian or gay (1%, *n* = 2), or as another sexual orientation (asexual and demisexual; 1%, *n* = 2). Most participants were married (69%, *n* = 151), and the vast majority reported that their child lives with them full-time (91%, *n* = 199).

Participants' educational attainment was slightly higher than that of U.S. adults, with 38% having a Bachelor's degree or higher (*n* = 84, including 24 participants with a graduate degree, 11%), 51% of participants having some post-secondary education (*n* = 111), 10% of participants having a high school diploma or GED (*n* = 21), and 1% of participants having less than a high school diploma (*n* = 2). One in 10 participants (*n* = 22) reported currently being a student. The modal participant perceived themselves as middle class on a modified version of the MacArthur Scale of Subjective Social Status (Adler & Stewart, 2007), which asked participants to rate their socioeconomic status on a ladder ranging from the first (lowest) to the tenth (highest) step (*M* = 5.83, median = 5, mode = 6). A majority of participants identified with a denomination of Christianity (68%, *n* = 150), with participants also identifying as Jewish (2%, *n* = 5), Buddhist (1%, *n* = 3), and other religious traditions (2%, *n* = 4). Slightly more than one in four participants reported no religious affiliation (27%, *n* = 60), while an additional four (2%) self-identified as spiritual (textbox entry). A plurality of participants who identified with a religious or spiritual practice indicated that their religion was of high importance to them (6-9 on a nine-point scale; 44%, *n* = 70), while fewer selected a middle level of importance (4-6; 38%, *n* = 60) and lower level of importance (1-3; 18%, *n* = 28). Participants most commonly identified their political beliefs as liberal or very liberal (44%, *n* = 96), while fewer identified as moderate (21%, *n* = 47), conservative or very conservative (17%, *n* = 38), and neither liberal nor conservative (16%, *n* = 36). About

half of participants reported living in a suburban location (53%, *n* = 116), with the remaining participants living in rural (25%, *n* = 54) and urban (20%, *n* = 43) locations.

Upon a visual inspection, no major differences emerged between the participant demographics for the intervention and control conditions. Demographic rates were comparable between the two conditions in most cases, and rarely varied by more than five percent. For additional detail about participant demographics, including a comparison of intervention and control groups, please see Table 2. A visual inspection of demographics between participants recruited from Amazon Mechanical Turk (MTurk) and other sources also revealed comparable demographics, with demographic rates typically within 10 percent between groups.

Participants also provided demographic information about their sexual minority child. The mean age of participants' sexual minority children was 15.34, and the median age 15. A majority of participants' children were Caucasian/White (82%, *n* = 180), while about one in four (26%) were a person of color (*n* = 56). A plurality of participants' children identified as lesbian or gay (45%, *n* = 98), and slightly over half identified as a girl (55%, *n* = 121). Nearly half of participants' children came out to their parent within the past year (47%, *n* = 102), while one-third came out more than one year ago (33%, *n* = 79), and about one in five (19%) had not yet come out (*n* = 41). For additional information about participants' children, see Table 3.

Participants also described their familiarity with sexual minority people and resources. A plurality of participants reported that they knew one to five LGB people besides their child (42%, *n* = 81), while fewer reported knowing six to 10 LGB people (31%, *n* = 66), and 11 to 19 LGB people (12%, *n* = 26). One in ten participants reported that they knew 20

or more LGB people (10%, *n* = 21), while 7% reported that they did not know any LGB people other than their child (*n* = 16). Participants most frequently reported that they used conversations with friends and co-workers to learn more about being a parent of a sexual minority child (47%, *n* = 103), followed by educational videos or documentaries (32%, *n* = 69), news or magazine articles (27%, *n* = 59), medical and mental health websites (26%, *n* = 58), other websites (25%, *n* = 55), parent support groups (19%, *n* = 42), therapy (11%, *n* = 23), religious materials (7%, *n* = 16), and other resources (3%, *n* = 7).

Procedure

Recruitment. Recruitment took place during a period of two months in 2018. Recruitment methods included Amazon Mechanical Turk (MTurk), social media, PFLAG groups, religiously-oriented groups for parents of sexual minority individuals, and Google advertisements. The initial recruitment plan did not involve participant incentives. Midway through data collection, a $5 incentive was added in the form of an Amazon.com credit (MTurk participants) or gift card to a national retailer (other participants) to increase participation. For examples of recruitment materials, see Appendix E.

MTurk. MTurk is a crowdsourcing website where individuals can earn small amounts of money for completing tasks, including research studies. A notable benefit of MTurk is the ability to reach a diverse sample: with parents, specifically, MTurk may yield more diverse samples in terms of ethnicity, income, and gender than samples recruited through listservs (Dworkin, Hessell, Gliske, & Rudi, 2016). Another benefit, specific to this study, is that MTurk is outside of LGBTQ parent support networks such as PFLAG, meaning that it can reach parents who are not already connected with support resources. Because only a subset of parents of sexual minority youth are connected with such community support networks,

reaching participants outside of these networks can increase the external validity of findings. However, there are some drawbacks to MTurk, including that participants may not pay full attention to study materials and may be likely to participate in several related studies, a concern if numerous studies draw from a highly similar pool of participants (Chandler, Mueller, & Paolacci, 2014).

A post for the study was live on MTurk for 19 days. The researcher used functions from an affiliated website, TurkPrime, to target the study toward individuals who identified as a parent of a child age nine to 19, reported having a child that lives in the home with them, and live in the United States. To increase the chances of quality data, a problem on crowdsourcing websites, MTurk reputation was used to determine which MTurk users had access to the study (Peer, Vosgerau, & Acquisiti, 2014). To view recruitment materials for the study, MTurk users were required to have successfully completed at least 100 MTurk tasks and have at least a 50% success rate. The time between accepting the task and submitting a redemption code in MTurk was limited to 90 minutes in order to use certain TurkPrime functions; there was no indication that this adversely affected rates of attrition. A total of 195 participants recruited from MTurk began the study, including 186 participants who completed the study.

Social media. Recruitment messages were sent to 40 Facebook pages and groups for parents of teenagers. Two Facebook groups provided the researcher with permission to post a recruitment message to their group. Links to the study were also disseminated via Twitter and, to a lesser extent, Pinterest and Instagram. Pages were predominantly non-LGBTQ specific, and were selected as a way to reach parents who were not connected to sexual minority parent support networks. Some challenges emerged during recruitment from social

media, including spam responses (discussed in the results chapter) and the researcher receiving a temporary block from Facebook Messenger due to a high volume of similar messages sent during a short period of time. A total of 17 participants recruited from social media began the study, and 10 completed it.

PFLAG. PFLAG is a nationwide network of support groups for parents of LGBTQ children. Recruitment messages were sent to 258 local PFLAG chapters, with nine responding that they would send the recruitment message out to their members, and a handful of other groups noting that they did not have active members who met criteria for the study. Seventeen participants recruited from PFLAG began the study and eight completed it.

Religious organizations. The researcher contacted 30 religious groups that had a support group for parents of LGBTQ children or a general LGBTQ group that was open to parents of LGBTQ children. All groups belonged to either a Christian (27) or Jewish (3) faith. Five religious groups responded that they would send out the recruitment message to their members. Eighteen participants recruited from religious groups began the study and six completed it.

Google advertisements. Google advertisements were selected as a way to reach parents who are searching for information related to supporting a sexual minority child. Google advertisements also have the potential to reach parents who are unconnected to existing parent support resources and parents whose child came out recently: Huebner et al. (2013) used Google advertisements to recruit parents of sexual minority youth and found that 86% of participants had never attended a parents of sexual minorities support meeting such as PFLAG and 21% of parents had a child who had come out within the past month. Huebner

et al. also had success in recruiting a racially diverse sample of parents of sexual minority youth through Google advertisements.

A total of 4,035 people viewed a Google advertisement for this study. Of these, 131 individuals clicked on a link, with the top keywords being "coming out" (31), "gay kids" (19), and "gay child" (11). Most clicks came from mobile phones (64%, $n = 84$), while a smaller number came from computers (20%, $n = 36$) and tablets (16%, $n = 21$). However, Google advertisements were not successful for the current study. One challenge was that a sizeable proportion of clicks came from searches unlikely to be from members of the target population, including clicks originating from the use of keywords in a non-LGB context (e.g., “coming out” in terms of the release date of a movie or product) and explicitly pornographic searches. Successes and problem areas with keywords were monitored, and keywords were adapted in response. A total of 10 people recruited from Google advertisements consented to participate in the study and none completed it.

The recruitment source was not verifiable for 20 participants who started the study, including 12 who completed it.

Informed consent. Upon recruitment, potential participants were directed to an informed consent page featuring information about the study, foreseeable risks and benefits, participant rights, and contact information of the principal investigator and the University of California, Santa Barbara Institutional Review Board. Individuals who declined to provide consent were directed to a page with information about resources for parents of sexual minority youth. For a copy of the informed consent letter, see Appendix F.

Participant screening. Participants completed an initial screening to determine eligibility to participate in the study. Eligibility questions assessed whether 1) the participant

was the parent, legal guardian, or primary caretaker of a child age 13-18, 2) their child identifies as lesbian, gay, bisexual, questioning, or otherwise non-heterosexual or the parent believed that their child is likely non-heterosexual, 3) their sexual minority child lives with them at least part-time, and 4) they live in the United States. Participants were required to meet all four criteria to be included in the study; participants who did not meet one or more of these criteria were directed to a page explaining that they were not eligible to participate in the study. Participants were also asked if their child identifies as transgender or gender non-binary; if yes, they were presented with the option of completing the current study or transferring to a resource page for parents of gender minority youth. See Appendix G for screening items.

Demographics. Participant age, gender, and race/ethnicity were collected at the beginning of the study; information about the age, gender, and sexual orientation of participants' children was also collected. Following all post-test measures, additional demographic questions were asked about the participant (education level, subjective socioeconomic status, sexual orientation, relationship status, religion and religiosity, political views, and urbanicity) and their child (race/ethnicity and education level). Initially, all demographic items were asked before the intervention or control condition; this was modified shortly after the beginning of data collection to address high rates of attrition prior to reaching the intervention or control condition. At the time of this modification, recruitment was active in all of the methods described above except MTurk; this may have informed the distribution of attrition across different recruitment methods.

Preliminary measures. Participants completed items about how long ago their child came out to them, resources they have used for information or support about parenting a

sexual minority child, and their level distress about having a sexual minority child. Participants also completed two measures hypothesized to correlate with the outcome measures. First, participants completed a measure that assessed use of and self-efficacy for general sexuality parenting strategies. Existing use of sexuality parenting strategies was hypothesized to correlate with self-efficacy for completing sexual minority-specific parenting strategies, as performance accomplishments from non-sexual minority-specific sexuality parenting strategies may generalize toward confidence in sexual minority-specific parenting practices. Participants also completed a measure of attitudes toward sexual minority populations; attitudes are a predictor of behavioral intentions in the theory of planned behavior (Ajzen, 1991). Following the completion of pre-test measures, participants were randomly sorted into the experimental or control condition using a feature provided by Qualtrics, the survey hosting website for this study.

Intervention. The PRISMS intervention consisted of five modules designed to, as a whole, increase parents' self-efficacy and behavioral intentions to engage in sexual minority-supportive parenting practices. The intervention was informed by Bandura's (1977) theory about promotion of self-efficacy and Philips and Ancis's (2008) adjustment framework for parents of sexual minority children. Modules were interactive and covered a range of topics including normalizing parental experiences, psychoeducation about parental support, reflection about one's use of supportive parenting strategies, rehearsal of supportive parenting, and positive experiences of parents of sexual minority individuals. What follows is a brief description of the PRISMS intervention; for examples of intervention materials and links to videos, see Appendix H.

Normalizing Parent Experiences. Participants watched a video that featured quotes from parents of sexual minority individuals speaking to the range of emotional experiences they had after their child came out (e.g., upset, confused, relieved) and encouraging parents to show love and support toward their child no matter how they feel about their child's sexual orientation. Participants were also presented with an infographic of a process of parent adjustment to a child's sexual orientation (Phillips & Ancis, 2008) that sought to normalize parents' experiences and instill hope.

Psychoeducation. Participants were provided with an infographic about common experiences of sexual minority youth, including experiences similar to other youth (e.g., learning to drive, dating for the first time) and experiences unique to sexual minority youth (e.g., coming out, bullying due to one's sexual orientation). Next, participants completed four multiple choice questions about the role of parent support (e.g., promoting self-esteem and protecting against suicide attempts). Participants were provided with the correct answer and an elaboration based upon psychological research. A sample item is: "LGB youth who perceive their parents as supportive have higher levels of _____ compared to LGB youth who perceive their parents as unsupportive." Participants could select from three response options: anxiety, self-esteem, and unprotected sex.

Reflection on Existing Support. Participants answered two to four questions about how frequently they use examples of each of six supportive parenting practices described above (general support, direct support for a child's sexual orientation, support for a child's LGB friendships and relationships, advocacy within family and community networks, avoidance of unsupportive actions, and continued learning and growth). For most items, participants were asked about how frequently they engaged in the parenting practice within

the past three months. A sample item is: “If my child wants to discuss sexual orientation or sexuality with me, I…” with response options including changing the topic, using the opportunity to express concerns about their child’s sexual orientation, being okay with having a brief conversation, and being open to discussing sexual orientation and sexuality as much as their child wanted. Each set of items was followed by a description that identified the type of parent support participants had reflected upon, provided encouragement for participants’ successful use of that type of support (or encouragement for the participant’s learning process, if they reported never using that type of support), and a list of additional ways to convey the type of parent support. This was followed by an exercise in which participants watched an animated video in which a child shared an incident of homophobic bullying with their parent and their parent responded with a combination of supportive and unsupportive responses. Participants were then asked to identify ways the parent responded that were supportive and unsupportive, and received feedback with the correct answers.

Rehearsal of Support. Participants were provided with a prompt in which a hypothetical fellow parent’s child came out and reached out to the participant for suggestions on how to support their child. Participants were asked to write a response to the hypothetical friend with suggestions about how to support their child.

Affirmation. Participants read four quotes selected from Gonzalez et al. (2013) highlighting positive aspects of being a parent of a sexual minority child. Participants then watched a slideshow featuring upbeat music and images of sexual minority youth and their families.

Research Foundation of the Intervention. The intervention incorporated three out of the four strategies to increase self-efficacy outlined by Bandura (1977): verbal persuasion,

vicarious experience, and performance accomplishment. Verbal persuasion included highlighting the ways in which parents were already successful in supporting their child both generally and in terms of their child's sexual orientation and the use of encouraging language throughout the intervention. Vicarious experience included the use of an animated video in which a parent supports their sexual minority child and the use of quotes from parents of sexual minority individuals that highlighted their support and growth process. Performance accomplishment consisted of writing a letter to a hypothetical friend in response to a vignette outlining ways for the friend to support their sexual minority child, and affirmation of the participant's existing supportive parenting practices.

The intervention also drew upon the body of research about self-efficacy in communication about sexuality topics with children. Parental knowledge is the largest predictor of parental self-efficacy for communicating about sexuality with children (Morawska et al., 2015), and interventions have successfully used psychoeducation to increase parental self-efficacy for communicating with children about sexuality (e.g., Weekes et al., 2014). The intervention included psychoeducation about what sexual minority youth need from their parents and information about parenting behaviors that sexual minority youth are likely to find supportive.

The intervention was informed by additional research about acceptability and motivation. One module of the intervention focused on normalizing the range of emotional reactions parents have after a child comes out and noted that adjustment to a child coming out is a process that takes time. Normalization of parental reactions is a technique used in a variety of parenting interventions, particularly when a child experiences an outcome that parents may consider undesirable or unexpected (Menvielle et al., 2002; Rehm & Bradley,

2005). Normalizing parental reactions can also communicate the intervention's non-judgmental approach, helping to increase its acceptability to parents. The intervention also drew upon social-cognitive theory about the relationship between motivation and self-efficacy. Social-cognitive theory, as applied to industrial-organizational psychology, suggests that high self-efficacy by itself is not sufficient for behavioral change, but rather that it must be paired with motivation to change (Stajkovic & Luthans, 2002). Two modules in this intervention sought to increase parents' motivations, and by extension intentions, to make behavioral changes that support their sexual minority child. A module about psychoeducation included information about supportive parenting as a protective factor of sexual minority youths' physical and mental health (e.g., self-esteem, alcohol and drug abuse, and suicide risk). A module about affirmation highlighted benefits of having a sexual minority child as stated by other parents of sexual minority youth, such as close family connections and genuine relationships between parents and children, with the intention that highlighting the gains that can come from supportive parenting would motivate parents to follow through on their efficacy beliefs.

Control condition. Control participants were presented with information from an online resource, "Answers to your questions – for a better understanding of sexual orientation and homosexuality," published by the American Psychological Association (2008). This brochure presents 17 questions followed by psychoeducational responses; one item about sexual orientation change efforts was modified to be up to date with current laws. The brochure contained a brief mention of the importance of family support.

The brochure was grouped into five categories (definitions, development of sexual orientation and coming out, mental health, prejudice and discrimination, and relationships

and families) to reflect a forthcoming revised version of this resource, and participants had the opportunity to select as many questions as they wanted to read about for each category. This aligns with the interactive version of the resource on the APA website, in which participants click on the questions they want information about and do not view information about other items. Participants were asked to select items they wanted to learn more about, read the answers to the questions they selected, and complete one quiz question for each item to verify that they read and understood the psychoeducational material (see Appendix I for quiz items). Sample questions answered in the brochure included "Is homosexuality a mental disorder?" and "At what age should lesbian, gay, or bisexual youths come out?" The brochure content was presented through an online interactive survey format in Qualtrics to establish a similar level of engagement and aesthetic environment as the intervention.

The brochure represented treatment as usual: it is easily found with a Google search for "sexual orientation information" and is available at the offices of psychologists and other mental health professionals. Psychoeducation about sexual orientation was also selected because participants may view it as more credible than a control condition with unrelated content. A credible control condition can enhance construct validity by preventing rivalry and demoralization effects that occur when participants are aware that they are in a control group (Heppner, Kivlighan, & Wampold, 2007).

Post-test. Following completion of the intervention or control condition, participants completed measures of sexual minority-related parental self-efficacy, behavioral intentions related to supporting a sexual minority child, and acceptability of the intervention or control condition. Participants were also asked to provide open-ended feedback about their satisfaction with the intervention or control condition. Finally, participants were asked to

identify the age at which their child came out, the age at which they first believed their child to be non-heterosexual, and the number of sexual minority individuals they know besides their child.

Debriefing. Participants were provided with a resource list for parents of sexual minority youth at the end of the study. Participants were asked if they would like to participate in a three-month follow-up, which is beyond the scope of the current study. Participants who selected that they were potentially interested in a follow-up study were directed to sign up for the follow-up. Efforts were made to ensure that participants in the control group have access to the same treatment as intervention participants. Control participants who were not interested in the follow-up study were informed that the researchers were also testing another resource for parents of sexual minority youth and were offered an opportunity to use the PRISMS intervention. Control participants who expressed interest in the follow-up will receive the same debriefing and access to the PRISMS intervention after completing the follow-up. Intervention data from participants who initially completed the control condition was stored separately from the data described below and was not counted toward participant totals nor used in any analyses.

Measures

Attitudes. The lesbian, gay, and bisexual knowledge and attitudes scale for heterosexuals (LGB-KASH; Worthington, Dillon, & Becker-Schutte, 2005) was used to assess knowledge of and attitudes toward sexual minority populations at pre-test. The LGB-KASH contains 28 self-report items on a seven-point Likert scale anchored by "very uncharacteristic of me or my views" (1) and "very characteristic of me and my views" (7). It contains five subscales: hate; knowledge of LGB history, symbols, and community; LGB

civil rights; religious conflict; and internalized affirmativeness. Sample items include "Hospitals should acknowledge same-sex partners equally to any other next of kin," "I can accept LGB people even though I condemn their behavior," and "I would attend a demonstration to promote LGB civil rights." Factors had acceptable to strong internal consistency ranging from α = .73 to .92. With the current sample, the LGB-KASH had strong internal consistency (α = .87), with internal consistency on subscales comparable to that of the sample used to develop the measure (α = .73 to .91).

Sexuality-related parenting practices. A questionnaire developed by Morawska, Walsh, Grabski, and Fletcher (2015) was used to examine parents' sexuality-related parenting practices. The questionnaire contains 17 strategies and asks parents to rate the frequency with which they have used each strategy on a four-point Likert scale ranging from "not true of me at all" (1) to "true of me very much or most of the time" (4). Participants are also asked to rate their confidence for using each strategy on a 10-point Likert scale ranging from "certain I can't do it" (1) to "certain I can do it" (10). Items are not sexual minority-specific; sample items include "Encouraged my child to share their thoughts and feelings about sexuality" and "Used a current event or media story to start a conversation with my child about sexuality." The measure had been found to have strong internal consistency of α = .90 and α = .95 for existing practices and confidence, respectively. For the current study, only the existing parenting practices were analyzed; the measure had a strong internal consistency of α = .89.

Open-ended pre-condition questions. Participants answered two open-ended questions prior to completing the intervention or control condition. The questions asked about their concerns about being a parent of a sexual minority child and what they are

interested in learning more about related to being a parent of a sexual minority child. The responses will inform future revisions to the PRISMS intervention but were not analyzed as part of the current study.

Measure of parental self-efficacy. There was no existing measure of parental self-efficacy to engage in sexual minority-supportive parenting practices; therefore, a measure was developed to assess the effect of the intervention on this construct. Items were based upon existing literature about sexual minority-supportive parenting practices and specific examples of supportive behaviors in the literature. A sample item is "I can ask about crushes or attractions using language consistent with the gender(s) my child is attracted to." The measure was informed by Bandura's (2006) recommendations for developing self-efficacy scales and used a six-point Likert scale from Dillon and Worthington (2003) anchored by "not at all confident" (1) and "highly confident" (6). Dillon and Worthington developed a scale of therapist self-efficacy for working with sexual minority clients; their scale format was selected for this study due to the similar scale content to the current study. The parental self-efficacy measure had excellent internal consistency, $\alpha = .94$ with the current sample. The measure can be found in Appendix J.

Measure of behavioral intentions. There was no existing measure of intentions to engage in sexual minority-supportive parenting behaviors; therefore, a measure was developed to assess for the effect of the intervention on this construct. Both supportive and unsupportive parenting intentions were included in the measure. A sample supportive item is: "I plan to watch a TV show or movie about LGB topics with my child." A sample unsupportive item is: "I plan to be upfront and honest with my child about my discomfort with their lesbian, gay, or bisexual identity." Unsupportive items were reverse-scored. Items

were measured on a seven-point Likert scale ranging from "highly unlikely" (1) to "highly likely" (7). The directions and Likert scale anchors were based upon suggestions for measuring behavioral intentions outlined in Ajzen (2006). The behavioral intentions measure had a strong internal consistency of $\alpha = .89$. The measure can be found in Appendix K.

Positive and negative affect. Affect at post-test was measured with the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), a 20-item survey consisting of 10-item subscales measuring positive and negative affect, respectively. Participants were asked to rate how they were feeling in the moment on a Likert scale ranging from "very slightly or not at all" (1) to "extremely" (5). Sample affective states asked about include "enthusiastic" and "irritable." In a national sample, the PANAS had strong internal consistency when used to measure positive and negative affect in the moment: $\alpha = .89$ and $\alpha = .85$, respectively (Watson et al.). With the current sample, the PANAS had excellent internal consistency, with the positive and negative affect subscales having internal consistency of $\alpha = .91$ and $\alpha = .92$, respectively.

Feasibility and acceptability. The feasibility and acceptability of the intervention was assessed with questions about participants' reactions to the intervention, satisfaction with the intervention, helpfulness of intervention, and open-ended feedback. A majority of items are from two feasibility and acceptability studies (Hightow-Weidman et al; 2012; Mustanski, Garofalo, Monahan, Gratzer, and Andrews, 2013) which were directed toward sexual minority communities.

Participants were asked to rate their reactions to the intervention on four five-point Likert scales ranging from: terrible to wonderful, difficult to easy, frustrating to satisfying, and dull to stimulating. Participants were also asked to rate their satisfaction with the

intervention as a whole and the helpfulness of each intervention activity on a five-point Likert scale. Participants were asked to respond to two additional questions on a five-point Likert scale: "This program was a good way to learn more about how to support my child" and "This program would be a good way to help other parents with a lesbian, gay, or bisexual child." Participants also rated their satisfaction with the time it took to complete the intervention and the amount of information presented. Finally, participants were asked two questions with open-ended textboxes regarding which aspects of the intervention they liked the most or found the most helpful, and liked the least or found the least helpful, respectively. Control participants completed the same items for comparison purposes, with the exception of answering items about the helpfulness of specific materials from the control condition rather than the intervention.

Credibility. The credibility of materials was assessed with seven items adapted from the nine-item Credibility Questionnaire (Cred-Q; Cartreine, Locke, Buckey, Sandoval, & Hegel, 2012); two items that were not relevant to the current study were not retained, and certain items were revised to refer to supporting LGB youth. The Cred-Q was developed to assess the credibility of an online intervention for depression, and includes items about the trustworthiness and perceived bias of the materials. A sample item is "How much do you believe what these materials tell you?" Both the original nine-item version and adapted seven-item version had internal consistency of $\alpha = .92$.

Design

This study used an experimental post-test only design, a design with high internal validity. Outcome measures were not used at pre-test to account for the potential of priming effects for the dependent variables of parental self-efficacy and behavioral intentions for

sexual minority-supportive parenting practices. Two hypothesized covariates of these outcome variables—attitudes toward sexual minority populations and use of general (non-sexual minority specific) sexuality parenting strategies—were assessed at pre-test to control for baseline levels of these related constructs.

A power analysis was conducted using G*Power 3.0 to determine the minimum number of participants needed to test efficacy. The power analysis was based upon the selected statistical method of analysis of covariance (ANCOVA), including two ANCOVAs each with one covariate. An effect size of .20 was selected based upon findings of small to moderate effect sizes of LGBTQ attitude change intervention research (Israel, Choi, et al., 2018; Israel, Kary, et al., 2018; Lin & Israel, 2012). The power analysis was based upon $\alpha = .05$ and $\beta = .80$. The power analysis found that a minimum of 200 participants were needed to find the hypothesized effect size within the parameters of the study.

IV. Results

Preliminary Feedback

Feedback was sought throughout the process of developing the PRISMS intervention. Interviews with parents of sexual minority individuals helped to inform an initial draft of the PRISMS intervention, while usability testing and feedback from experts in research and clinical work with LGBTQ communities, parental self-efficacy, and behavioral intentions was used to inform revisions to the PRISMS intervention. After revisions were completed, proofreading and pilot testing were used to assess for any errors and issues with the functionality of the study on Qualtrics.

The researcher met with a total of five people during the interview stage of development. Two participants attended an interview that was scheduled before a PFLAG meeting and an additional three participants who were unable to attend the interview made alternative arrangements to meet with the researcher (two together and one individually). An overview of the PRISMS intervention was provided, and participants were asked to provide feedback about an outline of the materials and what they would have found helpful in the years after their child came out. Key points of feedback included a strong preference for visuals and interactive materials, emphasis on the positive outcomes that can result from demonstrating support, and the use of accessible language. Interview participants also discussed ways to speak about religion in the context of this intervention, including helping parents to hold both their religious beliefs and support for their child and providing a list of LGBTQ-affirming religious resources for parents of sexual minority youth at the end of the study. This feedback was integrated into the development of the PRISMS intervention.

Three parents of sexual minority individuals participated in usability testing, in which they used a draft version of the PRISMS intervention and answered questions from the researcher in-person. Key areas of feedback included a preference for multiple choice rather than true-false items during a psychoeducation module to make correct answers less obvious, wanting more photos, and that a video with quotes from parents of sexual minority youth went too quickly to read the quotes in full. One participant specifically requested imagery that was more family-oriented and less advocacy-oriented (e.g., rainbow flags, marching in a pride parade) during the affirmation module slideshow, noting that they would not have felt comfortable marching in a pride parade after their child came out and that seeing such photos as the primary imagery of what parent support looks like would be upsetting. Participants also asked for various clarifications of items and instructions, including why the materials were targeted toward parents of lesbian, gay, and bisexual, but not transgender, youth. This feedback was integrated into revisions, including slowing down the video with quotes from parents of sexual minority youth, changing psychoeducation items to be multiple choice, adding more family-focused photos to the affirmation slideshow, clarifying the differing needs of parents of sexual minority and transgender youth, and providing a link to additional resources for parents of transgender youth. Usability testing also afforded the researcher an opportunity to observe participants' interactions with the Qualtrics interface. One participant's web browser experienced issues with loading a video that had been embedded into the intervention; during revisions, a text-based URL was included with all video materials to ensure access to videos in the event that other participants encountered this issue.

Fourteen people with clinical or research expertise in parents of sexual minority youth, parental self-efficacy, and behavioral intentions were identified based upon

contributions to the literature and personal connections, and were contacted to request feedback about a draft of the PRISMS intervention; a message was also sent to members of an LGBTQ psychological association in Utah. Four people provided responses. Expert feedback was sought at the same time as usability testing occurred, and some similar feedback was received, including recommendations to slow down the video with quotes from parents of sexual minority youth and to use multiple choice rather than true-false items during the psychoeducation module. Additional feedback, which was integrated into revisions, included suggestions for improving the accessibility of language (e.g., rephrasing "that feels congruent with my religious beliefs" to "that upholds my religious beliefs" when discussing support at the intersection of religion and sexual orientation) and feedback that the affirmation slideshow felt "unnatural." One participant also noted an error with Qualtrics's display logic. Some suggestions for revisions to video material were noted but not considered practical given the study's timeline (e.g., using real people rather than animation for the parent-child conversation video).

After integrating revisions into the PRISMS intervention, the researcher asked graduate students and recent graduates in applied psychology with expertise in LGBTQ issues to proofread study materials; one colleague forwarded the request to their team of undergraduate researchers who had a background in LGBTQ psychology. A total of five people completed proofreading and provided feedback. Feedback included identifying grammatical mistakes and awkward language, identifying unclear language, suggesting alternative wordings (e.g., "relationship status" instead of "marital status" in the demographic survey), notes about graphics not displaying properly, and general feedback about the study materials. Multiple people noted that the control condition was unengaging. This marked the

first time feedback was sought on aspects of the study besides the intervention, including the materials pre- and post-test and the control condition. Feedback from proofreaders was integrated into final revisions of the study. The control condition was modified so that participants could select which of the 17 questions about sexual orientation they wanted to receive information about, rather than receiving information about all of the questions. Comprehension items were relocated to immediately after the answer to each question participants read about, rather than at the halfway mark and end of the control condition, in an additional attempt to increase engagement and prevent attrition.

Pilot testing was conducted to ensure that the survey website worked overall (e.g., random assignment procedure) and seek feedback about the feasibility and acceptability of the study from start to finish. Pilot participants were recruited through social media—34 PFLAG and LGBTQ organization Facebook groups—and through personal networks. A total of six participants began the pilot study, including three who completed it (two intervention, one control). Qualtrics display logic and the random assignment feature performed as expected, and participants expressed general satisfaction with the intervention and control. Although the researcher intended to recruit more participants for pilot testing, the decision was made to proceed to the efficacy study after a period of more than one month.

Efforts were made throughout the process of developing the intervention to seek out diverse perspectives, to mixed results. Although formal demographic questions were not asked of interview and usability testing participants, all appeared to be White and five out of seven appeared to be women. Recruitment messages disseminated in the Salt Lake City community that sought participation from underrepresented groups did not yield additional participants. One area in which more diversity of perspectives was represented in the

development of the PRISMS intervention was in terms of religion, with two participants self-identifying as Jewish and two self-identifying as Mormon.

Data Cleaning

One-hundred-eighty-one responses characteristic of spam were removed from the dataset prior to analysis. Although there was not one single characteristic true of all spam responses, common characteristics included large numbers of entries with identical responses on a set of items, a lack of responses for all open-ended items, and pages of surveys completed in a very short amount of time (e.g., a few seconds), frequently with Qualtrics registering no clicks on the page. The following procedures were used to remove spam. First, a group of 125 responses that had identical demographic entries were removed—for example, these responses included the maximum on any slider-bar item, such that the participant's age was always listed as 100 and child's age was always listed as 18. Second, a group of 15 responses that had identical entries on all preliminary and outcome measures were removed. Third, 28 additional responses that included zero clicks on pages of filled out surveys were eliminated. Fourth, 13 responses flagged as duplicates (multiple responses per person) were removed. All spam responses came from a link distributed on Twitter, and occurred on May 6 and 7, 2018, at which point the link was blocked and the spam stopped.

Missing data

Multiple imputation was performed to address missing data on covariate and outcome measures. There were no indications that data were not missing at random, an assumption for multiple imputation (Schlomer, Bauman, & Card, 2010). Because some scale items were non-normally distributed, a predictive mean matching model was used for imputation, as recommended by Lee and Carlin (2017). To obtain the most accurate imputation results,

imputation was performed on an item level rather than a scale level (see Gottschall, West, & Enders, 2012). Because only a small percentage of data were missing (generally under 2% for any given item), a small number of imputed datasets (five) was selected.

Hypothesis tests

To test hypotheses about the effect of the intervention on parental self-efficacy and behavioral intentions, two analyses of covariance (ANCOVA) were conducted with SPSS to assess for differences between the intervention and control groups on levels of the outcome variables while accounting for hypothesized covariates. To test the first hypothesis, that the PRISMS intervention will be associated with higher parental self-efficacy than a control, an ANCOVA was performed with parental self-efficacy as a dependent variable, sexuality parenting strategies as a covariate (Morawska et al., 2015), and condition (intervention or control) as an independent variable. To test the second hypothesis that the PRISMS intervention will be associated with higher behavioral intentions than a control, an ANCOVA was performed with behavioral intentions as a dependent variable, attitudes about sexual orientation as a covariate, and condition as an independent variable. ANCOVA is an objective test and has more power than its ANOVA counterpart due to the use of a covariate (Van Breukelen, 2006). For descriptive statistics about measures used to test hypotheses, see Table 4.

Assumptions. The author assessed assumptions of ANCOVA, including homogeneity of variance, homogeneity of regression slopes, and normality of residuals (Field, 2009). Three additional assumptions of ANCOVA—independence, interval data, and independence of the covariate and treatment effect—were fulfilled through the study design. For the ANCOVA with parental self-efficacy as a dependent variable, a visual inspection of

regression slopes (Field) did not indicate a violation of the homogeneity of regression slopes. Homogeneity of variance and normality of residuals were initially violated, the latter despite attempts to use exponential transformations (squared and cubed) to correct for a negative skew. A decision was made to eliminate an outlier: a participant who had the lowest score on the self-efficacy measure (44 out of a possible 108; the second lowest score was 56). After removing the outlier participant, a Levene's test was performed, which did not find a violation of the assumption of homogeneity of variances $F(1, 216) = 2.99$, $p = .085$. The distribution of residuals remained non-normal, as indicated by a Shapiro-Wilk test ($p < .001$). There is some precedent for using ANCOVA when residuals are not normally distributed, especially when the correlation between the dependent variable and covariate is strong (Rheinheimer & Penfield, 2001)—the correlation between the parental self-efficacy measure and the covariate was $r = .51$. In addition, ANCOVA remains more appropriate than alternative non-parametric tests in all but the most extreme situations (Vickers, 2005). As such, a decision was made to proceed with the ANCOVA, but acknowledge the limitation that the violated assumption has on the results.

Hypothesis 1: Parental self-efficacy. For the first one-way ANCOVA, parental self-efficacy was selected as a dependent variable, sexuality parenting practices as a covariate, and condition as the independent variable. There was a significant effect of the PRISMS intervention on parental self-efficacy at post-test after controlling for sexuality parenting practices, pooled $F(1, 215) = 5.15$, $p = .024$ (see Table 5). This was indicative of a moderate effect on parental self-efficacy, Cohen's $d = .31$.

Hypothesis 2: Behavioral intentions. For the second one-way ANCOVA, behavioral intentions was selected as a dependent variable, attitudes about sexual orientation

was selected as the covariate, and condition was selected as the independent variable. A Levene's test indicated that the assumption of homogeneity of variances was not violated, $F(1, 217) = 2.68$, $p = .139$. A visual inspection of scatterplots did not indicate any major deviations from homogeneity of regression slopes. Results did not indicate that the PRISMS intervention had a significant effect on behavioral intentions for sexual minority-supportive parenting when controlling for attitudes about sexual orientation at pre-test, pooled $F(1, 216) = .88$, $p = .350$ (see Table 6). The effect size was suggestive of, at most, a small effect on behavioral intentions for sexual minority-supportive parenting, Cohen's $d = .13$.

Hypothesis 3: Acceptability of the PRISMS intervention. The third research question was whether the PRISMS intervention was feasible and acceptable. This was tested through five different mechanisms: 1) ratings about the intervention content and participant experience, 2) ratings about the helpfulness of each intervention activity and as a whole, 3) affect at post-test, 4) open-ended feedback, and 5) feedback and objective data about the duration of the intervention and rates of attrition.

First, items were analyzed to compare satisfaction between the intervention and control groups to determine whether satisfaction with PRISMS was at least as satisfactory as treatment as usual. Both the intervention and control groups expressed satisfaction with their experience overall ($M = 4.47$ and 4.31, respectively, on a five-point Likert scale). The sum of items from Hightow-Weidman et al. (2012) measuring participant experience, including the extent to which the materials were terrible versus wonderful, difficult versus easy, frustrating versus satisfying, and dull versus stimulating, was comparable between members of the intervention group ($M = 16.89$, $SD = 4.72$) and control condition ($M = 16.58$, $SD = 4.84$). Participants also provided responses on the following items: "This resource was a good way

to learn more about how to support my child" and "This resource would be a good way to help other parents with a lesbian, gay, or bisexual child." Both items were measured on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Means on these items were comparable between the intervention (M = 4.51 and 4.64) and control (M = 4.28 and 4.42) conditions. For additional information, see Table 7.

Second, in order to determine whether the intervention was sufficiently credible, participant ratings of credibility were compared to the control condition. Participants in both conditions rated the materials they used to be highly credible on the adapted Cred-Q, with participants rating the credibility of the intervention (M = 60.62, SD = 11.80) as similar to the credibility of the control condition (M = 57.80, SD = 9.40). Non-inferiority testing was used to determine whether the credibility of the intervention was not worse than the credibility of the control condition; non-inferiority testing was selected instead of superiority testing because a similar level of acceptance to a well-regarded treatment as usual control condition would satisfy the third hypothesis about the acceptability of intervention materials. A comparison of confidence intervals between the control and intervention conditions demonstrated that the lowest point of the confidence interval in the intervention group outperformed the lowest point of the confidence interval in the control condition (Walker & Nowacki, 2010). This established the non-inferiority of the PRISMS intervention; 95% CIs [55.51, 60.08] and [59.01, 62.52], respectively.

Third, participant evaluation of the helpfulness of intervention materials was evaluated on Likert scales ranging from 1 (not helpful) to 5 (very helpful) for each of seven aspects of the PRISMS intervention. Mean ratings of helpfulness were four or above for all but one aspect of the intervention and ranged from 3.90 ("animated video of a parent-child

conversation and writing down the ways in which the parent was supportive and unsupportive") to 4.48 ("reflecting on personal use of supportive parenting practices and receiving information about additional ways to show support"). See Table 8 for additional information. Participants in the control condition answered a different set of six questions using the same Likert scale to assess the helpfulness of the activities they completed, with a range from 3.79 ("completing multiple choice and true-false questions") to 4.17 ("information about prejudice toward LGB people").

Fourth, affect at post-test was examined to ensure that the intervention did not lead to harm in the form of higher negative affect or lower positive affect at post-test, compared to the control group. Levels of positive affect at post-test were similar in the intervention group (M = 37.29, SD = 8.84) and control condition (M = 36.38, SD = 8.91). A comparison of confidence intervals between the control and intervention conditions established non-inferiority of the PRISMS intervention, 95% CIs [34.65, 38.10] and [35.65, 38.93], respectively. Levels of negative affect at post-test were comparable for the intervention (M = 14.91, SD = 6.32) and control (M = 15.00, SD = 7.22) conditions, t(23,140,801) = .10, p = .922. A comparison of confidence intervals between the control and intervention conditions established non-inferiority and equivalence (the entire interval for the intervention condition was within the parameters of the confidence interval for the control condition), 95% CIs [13.60, 16.40] and [13.74, 16.08], respectively.

Fifth, feedback from two open-ended questions was analyzed: "Which aspects of the program you completed did you like the most or find the most helpful?" and "Which aspects of the program you completed did you like the least or find the least helpful?" The researcher

conducted a content analysis by counting how frequently specific aspects of the intervention were referred to in the open-ended feedback.

A total of 103 participants responded to a question seeking open-ended feedback about what they liked or found helpful about the intervention; four responses were incomprehensible or did not indicate that any part of the intervention was satisfactory or helpful, for a total of 99 responses examined for positive themes. Some participants wrote about multiple aspects of the intervention they liked the most or found most helpful; these were counted multiple times. Participants most frequently expressed that the videos were the most satisfactory or helpful, with 16 mentioning the animated video with a parent-child conversation, nine mentioning the video with quotes from parents about their child coming out, one mentioning the affirmation slideshow, and 13 making a generic reference to videos without specifying which one(s). Nine participants indicated that reflecting on the ways in which they show support was the most satisfying or helpful, while eight indicated that writing a message to a friend whose hypothetical child came out was most satisfying or helpful. Fewer participants referred to other aspects of the intervention. An additional seven responses were generic in nature (e.g., “the whole program was helpful”).

A total of 97 participants provided a response to the open-ended question about what they liked the least or found least helpful about the intervention; of these, 29 indicated that there was nothing they found unhelpful or that they liked all of the materials, leaving a total of 68 responses examined for negative themes. The most frequently listed response was the animated video with a parent-child conversation, listed by 20 participants; most participants indicated dissatisfaction with the video as a whole, whereas others noted that they liked the content but did not like the animation style or computer-generated voices. Participants made

brief comments identifying additional unhelpful aspects of the intervention, including 14 who identified the affirmation slideshow as the least helpful (e.g., it didn't help participants to support their child), 11 who identified the exercise in which participants wrote a text message to a hypothetical friend whose child recently came out (e.g., difficult to give advice when unsure of answers oneself), and five who indicated that they would have liked more strategies, information, or resources. Fewer participants mentioned other aspects of the intervention that they did not like or did not find helpful; notable among these were two participants who perceived the materials as suggesting that all parents experience difficulty related to their child's sexual orientation. An additional three participants shared concerns about preliminary measures, two of which cited specific items on a measure assessing attitudes about sexual orientation. For selected quotes of both positive and negative feedback from participants who completed the PRISMS intervention, see Appendix L.

The final step to examine the feasibility and acceptability of the intervention was to examine information about the time it took participants to complete the study. The average participant in the PRISMS intervention took 46 minutes, with the median time being 39 minutes, and 95 percent of responses within the range of 17 to 85 minutes; this time includes screening, preliminary, and post-test measures in addition to the intervention. Three participants dropped out of the intervention condition after beginning it, making for a 97% completion rate. Participants were asked on a five-point scale to indicate whether they felt that the intervention was too short (1), just right (3), or too long (5); approximately two thirds of participants stated that the length was just right (n = 74), while one percent wished it were longer (n = 1) and one third wished it were shorter (n = 38). About three-quarters of participants reported that the amount of information in the intervention was just right (n =

85), while approximately 10 percent wanted more information (*n* = 12) and 15 percent wanted less information (*n* = 17).

Exploratory Analyses

Three exploratory analyses were performed to assess 1) differences in outcome measures in the control and intervention groups based upon level of distress about one's child's sexual orientation, 2) means for behavioral intentions for supportive versus unsupportive parenting behaviors among intervention and control participants, and 3) differences in the acceptability or helpfulness of the intervention based upon participant characteristics.

Parental distress and efficacy of the PRISMS intervention (Hypotheses 1 and 2). To assess the role of parental distress, means for the parental self-efficacy and behavioral intentions measures were compared between the intervention and control condition at four different levels of participant distress about their child's sexual orientation reported at pre-test: "not at all distressed" (1), "slightly distressed" (2), "somewhat distressed" (3), and "very / extremely distressed" (4 and 5). Very and extremely distressed were combined due to a small number of participants reporting extreme distress about their child's sexual orientation. Results appeared to show a relationship between parental distress and the effect of the PRISMS intervention. Intervention participants who reported feeling no distress about their child's sexual orientation reported similar levels of parental self-efficacy at post-test (*M* = 105.50, *SD* = 5.32) as members of the control condition (*M* = 105.38, *SD* = 4.28). The difference between groups increased successively, with intervention participants who reported feeling "very" or "extremely" distressed about their child's sexual orientation reporting higher parental self-efficacy at post-test (*M* = 85.94, *SD* = 14.68) than control

participants (*M* = 75.08, *SD* = 12.90; see Figure 2). A similar pattern was observed for behavioral intentions. Among participants who reported no distress about their child's sexual orientation, intervention participants reported comparable behavioral intentions at post-test (*M* = 143.52, *SD* = 10.47) as control participants (*M* = 143.00, *SD* = 11.36). Among the most distressed participants, however, intervention participants reported higher behavioral intentions (*M* = 116.69, *SD* = 22.30) than control participants (*M* = 98.62, *SD* = 23.11; see Figure 3).

Two-way ANCOVAs were explored as a possibility to assess these interactions, with the same dependent, independent, and covariate variables used to test hypotheses one and two, with the addition of a categorical variable for distress (no/low distress compared with high distress) as an independent variable. However, these analyses failed a Levene's tests for homogeneity of variance. Although ANCOVA is robust to some degree of violation of this assumption when sample sizes are similar, this does not hold true when sample sizes are unequal, as in the case of this exploratory analysis.

To determine if the PRISMS intervention significantly increased behavioral intentions for participants who were most distressed about their child's sexual orientation, an independent samples *t*-test was performed. The test consisted of the 17 intervention participants and 13 control participants who reported feeling very or extremely distressed about their child's sexual orientation. Assumptions, including homogeneity of variances and an approximately normal distribution, were met. Results from the pooled *t*-test indicated that, among parents who reported being very or extremely distressed about their child's sexual orientation, intervention participants had significantly higher behavioral intentions for sexual minority-supportive parenting practices, $t(8,231,452) = -2.17$, $p = .030$.

To explore whether participants who reported being very or extremely distressed about their child's sexual orientation differed demographically from other participants, a visual inspection of demographic information was performed. In most respects, participants who reported low and high distress about their child's sexual orientation were similar demographically. One possible difference was the distribution of gender, with 43% of highly distressed participants and 23% of less distressed participants identifying as men. Also notable was interpersonal contact with LGB people: although most participants in both groups knew at least one LGB person besides their child, none of the highly distressed participants, compared with one in four less distressed participants, reported knowing 11 or more LGB people besides their child. For additional information about participant demographics based upon participants' distress about their child's sexual orientation, see Table 9.

Effect of the PRISMS intervention on positive and avoidant behavioral intentions (Hypothesis 2). For the second exploratory analysis, results on the behavioral intentions measure were examined to determine if there was a pronounced difference between the intervention and control condition in either intentions to use supportive parenting practices and/or intentions to engage in unsupportive parenting practices. Means between the intervention and control group were compared for both the 15 supportive parenting practices items and the seven unsupportive parenting practices items on the behavioral intentions measure. Among supportive parenting practices, intervention participants had similar behavioral intentions (M = 94.03, SD = 11.02) as control participants (M = 91.99, SD = 14.86). For unsupportive parenting practices, behavioral intentions (reverse

scored) were comparable in both the intervention (M = 42.03, SD = 8.51) and control (M = 41.77, SD = 9.06) conditions.

Acceptability and demographic variables (Hypothesis 3). Items for the acceptability and helpfulness of the PRISMS intervention were compared across selected participant characteristics. These included length of time since the participant's child came out and urbanicity, as both were expected to relate to the degree of opportunities parents had to access other supportive resources. Religiosity was selected because religious observance is a cultural factor that may impact the acceptability of materials. Participant distress about their child's sexual orientation was also selected because it may impact the helpfulness of the materials or one's receptiveness to them. Crosstabs were visually inspected to compare frequencies of responses for acceptability and helpfulness data across different categories of participant characteristics and determine if further analyses might be appropriate. Although there were some differences across acceptability and helpfulness feedback for time since their child came out, urbanicity, and religiosity, none of these differences appeared large enough to warrant further analysis. Two acceptability items had a distribution that varied considerably based upon the participant's distress about their child's sexual orientation: the difficulty level of the intervention, and overall satisfaction with the intervention.

A Spearman's rho correlation test was performed to assess the strengths of the relationships between parent distress and both the difficulty level of the intervention and overall satisfaction with the intervention; this test was selected because it is robust to non-normal distributions of data. A significant relationship emerged between the perceived difficulty of the intervention (on an item for which lower scores indicated greater difficulty) and the parent's distress about their child's sexual orientation (on an item for which higher

scores indicated higher distress), $r = -.36$, $p < .001$. The relationship between distress about one's child's sexual orientation and satisfaction with the PRISMS intervention was also significant, $r = -.22$, $p = .023$. Results suggest that an association exists between distress about one's child's sexual orientation at pre-test and the perceived difficulty of and overall satisfaction with the PRISMS intervention.

Summary

The first hypothesis was that the PRISMS intervention would increase parental self-efficacy. An ANCOVA with parental self-efficacy as the dependent variable, condition as the independent variable, and sexuality parenting practices as the covariate supported the first hypothesis, pooled $F(1, 215) = 5.15$, $p = .024$. The second hypothesis was that the PRISMS intervention would increase behavioral intentions. An ANCOVA with behavioral intentions for supportive parenting practices as the dependent variable, condition as the independent variable, and attitudes toward sexual minorities as the covariate did not support the second hypothesis, pooled $F(1, 216) = .88$, $p = .350$. Exploratory analysis of the role of parental distress about a child's sexual orientation suggested that the PRISMS intervention did significantly increase behavioral intentions for parents who were very or extremely distressed about their child's sexual orientation, $t(8{,}231{,}452) = -2.17$, $p = .030$. The third hypothesis was that the PRISMS intervention would be acceptable to participants. An examination of confidence intervals found that the credibility of intervention materials and affect at post-test established the non-inferiority of the PRISMS intervention in these domains. An examination of quantitative satisfaction items and open-ended feedback suggested high satisfaction with the PRISMS intervention as well as areas for improvement.

V. Discussion

Results from this study supported two out of three hypotheses. The first hypothesis was that participants in the PRISMS intervention would have higher levels of parental self-efficacy for sexual minority-supportive parenting practices than a control group, when controlling for sexuality parenting practices unrelated to sexual orientation at pre-test. This hypothesis was supported: parents who completed the PRISMS intervention reported feeling more confident in their ability to support their sexual minority child, compared to parents who used an informational resource not designed to increase confidence. This is consistent with research findings that aspects of the PRISMS intervention, including knowledge about how to complete a task, awareness of personal accomplishment history, and vicarious experience, are predictive of self-efficacy.

A follow-up exploratory analysis suggested a possible connection between a parent's level of distress about their child's sexual orientation and their gains in self-efficacy parents through using the PRISMS intervention, with more distressed parents potentially experiencing greater benefits. Further analysis can compare gains from the PRISMS intervention between parents with differing levels of distress about their child's sexual orientation to determine whether such a connection exists. Of note, ceiling effects may have affected the level of parental self-efficacy measured for less distressed participants: many intervention and control participants who reported not being distressed by their child's sexual orientation reached the maximum, or near maximum, score on the parental self-efficacy measure. Having a number of scores at or near the scale's maximum led to a skewed distribution which was responsible for non-normally distributed residuals, a violation of an ANCOVA assumption.

The second hypothesis was that participants in the PRISMS intervention would have higher levels of behavioral intentions for sexual minority-supportive parenting than a control group, when controlling for attitudes toward sexual minority populations at pre-test. Although parents in the intervention group had higher levels of behavioral intentions at post-test, this difference was not significant. The effect size was small, meaning that although it is possible that PRISMS increases behavioral intentions relative to a control, this study was not sufficiently powered to detect an effect of this size. An exploratory analysis found no clear difference in the effect of the intervention on behavioral intentions to engage in supportive parenting practices versus intentions to not engage in unsupportive parenting practices.

The results of a second exploratory analysis offer preliminary evidence that PRISMS may have a meaningful impact on behavioral intentions for some parents, but have limited to no impact for others. Whereas parents who reported little to no distress about their child's sexual orientation had approximately the same level of behavioral intentions at post-test compared to a control group, parents who reported being very or extremely distressed about their child's sexual orientation and completed PRISMS had significantly higher behavioral intentions for sexual minority-supportive parenting practices compared to similarly distressed parents who completed the control condition. This suggests that the PRISMS intervention shows promise for increasing behavioral intentions for sexual minority-supportive parenting practices for parents who are distressed about their child's sexual orientation, but ultimately represents a small subset of participants and would benefit from further study.

The lack of significant findings for behavioral intentions, when examining the intervention group as a whole, may relate to the mechanisms through which behavioral intentions increase. Ajzen's (1991) theory of planned behavior posits that there are three

predictors of behavioral intentions: self-efficacy, attitudes, and norms. Although the intervention successfully increased self-efficacy, it did not change broader norms within the participants' communities that inform behavioral intentions. These community norms may have stemmed from both supportive communities (e.g., PFLAG groups), as well as less affirming communities (e.g., certain religious groups). It is conceivable that either the intervention or control condition may have affected attitudes about sexual orientation—for example, both intervention and control materials made mention of the fact that sexual orientation is not a choice—but this was not measured at post-test. As such, compared to self-efficacy, for which several possible predictors of increases were addressed in the intervention, the PRISMS intervention addressed a narrower range of pathways to increase behavioral intentions. In addition, it may take some amount of time after a parent feels more confident in their ability to support their child's sexual orientation before that translates into an intention to use sexual minority-supportive parenting practices.

Results suggest that the effect of the PRISMS intervention is comparable to that of other online psychological interventions. The effect size of .31 for parental self-efficacy is similar to the average effect size of .36 found in a meta-analysis of online parenting interventions (Nieuwboer et al., 2013). Notably, most studies in the meta-analysis contained multiple sessions or access to a resource over a prolonged period of time, whereas the PRISMS intervention involved one session, meaning that participants in the present study received a lower intervention dosage compared to most studies in the meta-analysis. In addition, this meta-analysis predominantly included studies with parents of youth under 12-years-old, whereas parents may feel less confident when their children are teenagers (Glatz & Buchanan, 2015). The effect size for behavioral intentions of .10 was comparable to other

online intervention research—for example, it was within the range of effect sizes (.10 to .19) for a brief online intervention to reduce internalized stigma in sexual minority men (Lin & Israel, 2012). Taken together, results suggest that the small to medium effect of the PRISMS intervention is within a typical range for online psychological interventions.

The third research question was whether the PRISMS intervention would be feasible and acceptable, as measured by quantitative and qualitative feedback about the intervention and participants' affect at post-test. Results indicated a high level of satisfaction with the PRISMS intervention that was comparable to satisfaction with the control condition. These comparable rates of satisfaction were found despite modifications to the control condition to make it more engaging. Findings were consistent with a broader field of research into human-technology interactions that has found that interactivity and tailoring of materials promote engagement (Schubart, Stuckey, Ganeshamoorthy, & Sciamanna, 2011; Strecher et al., 2008). Participants also found the materials to be highly credible and trustworthy at a level comparable to the credibility of the control condition. Findings that participants in the PRISMS intervention had similar levels of positive and negative affect at post-test, compared to control group participants, likewise help to establish the acceptability of the intervention. This is especially noteworthy because some aspects of the PRISMS intervention may have been uncomfortable for some participants, including information about suicide among sexual minority youth and reflecting upon one's use of unsupportive parenting practices. The high level of satisfaction overall, combined with the lack of impact on negative affect, helps to establish the PRISMS intervention as a resource that is both useful to participants and that does not foreseeably cause harm.

Although overall satisfaction with the PRISMS intervention was high, participants also identified certain parts of the intervention that they did not like or found unhelpful. Efforts to address one usability testing participant's feedback about the affirmation slideshow's heavy emphasis on advocacy imagery by using more family-oriented imagery may have, in turn, led to a slideshow that was not as visually identifiable as sexual orientation-related and, as such, did not feel congruent with the rest of the intervention to some participants. An animated video of a parent-child conversation was polarizing—it was both the most frequently cited favorite and least favorite part of the intervention in open-ended feedback. Future modifications may explore other approaches to achieve the same objective, including a non-animated video, the use of human voice-overs instead of computer-generated voices, or an interactive avatar. Finally, open-ended feedback highlighted the different levels of knowledge that participants had, with feedback both that the participant was already familiar with the information provided and, in contrast, that there were areas in which participants wanted more information.

Exploratory analyses of possible relationships between the acceptability of the PRISMS intervention and participant characteristics largely indicated that the PRISMS intervention was acceptable across a range of times since one's child came out, as well as across geographic location (urbanicity) and religiosity. A small correlation was found between the participant's distress about their child's sexual orientation at pre-test and the perceived challenge level of and overall satisfaction with the intervention, with more distressed participants rating the intervention as more difficult and less satisfying. It is possible that the information provided may have been more novel or outside of community norms for some parents who felt distressed about their child's sexual orientation. Most

parents who felt distressed about their child's sexual orientation did not find the difficulty level cumbersome. Taken together with the exploratory results finding that the biggest gains in self-efficacy and behavioral intentions were from the participants most distressed about their child's sexual orientation, the association between distress and the perceived difficulty of and satisfaction with the intervention appears to be a reasonable tradeoff.

Results support the feasibility of the PRISMS intervention: the delivery of the intervention online successfully allowed for a variety of media, including videos, infographics, and interactive psychoeducation and reflection activities, as well as participant anonymity. The median time to complete the intervention and associated pre- and post-test measures, at 46 minutes, was slightly outside of the expected range of 30-45 minutes indicated in the informed consent statement; a small subset of participants were farther outside of the expected length (e.g., 60-90 minutes). The average time may have been affected by settings on TurkPrime that limited the time participants had to complete the study, although few participants approached the time limit. It is not possible to know to what extent data about completion time reflects participants continuously working on the study versus disengaging and reengaging with the study one or more times. Still, when considering the moderate effect of the PRISMS intervention on increasing self-efficacy when provided in a one-time dose, the length—comparable to that of a single therapy session—appears reasonable.

One noteworthy aspect of the feasibility of the intervention is that the online delivery method allowed the study to reach a high proportion of people in rural communities—about one in four participants. This is especially important because people in rural communities may lack access to nearby in-person support resources, including local PFLAG chapters, an

LGBTQ community center, or therapists who specialize in serving LGBTQ communities. The PRISMS intervention, when further disseminated, has the potential to be a critical resource for parents of sexual minority youth in these communities.

An important limitation regarding the feasibility of the intervention when applied externally is the reliance on participant incentives to recruit a majority of participants. Whereas 16 participants completed the study without incentives during the first month of data collection, over 200 participants completed the study in the following weeks when offered a $5 gift card or credit for participating. Outside of a research context, it is unlikely that participants would be paid to use a psychological resource. It is possible that participants from existing parent of LGBTQ youth support groups, who constituted most of the participants prior to incentives being offered, may not be interested in or have limited benefit from using a resource such as PRISMS. Further research is needed to determine the ways in which the delivery of the PRISMS intervention online without incentives may be feasible in the future.

Development of the Intervention

The development of the PRISMS intervention was informed by the perspectives of parents of sexual minority individuals about what they would find helpful in an online resource, as well as researchers and mental health professionals with expertise in topics related to this study. Fewer participants provided feedback in person through interviews and usability testing than had been hoped, and certain underrepresented populations such as people of color were not represented in this feedback. In certain instances, the researcher proceeded with the study after substantial efforts to seek feedback, despite receiving less feedback than had been hoped for. In addition, initial plans for a focus group with sexual

minority youth to inform the development of intervention materials experienced setbacks and ultimately did not come to fruition. Future efforts to seek feedback may consider other, more accessible approaches, including phone or video conversations that do not require a substantial in-person time commitment.

A consideration in assessing the development of the intervention is that the researcher is not a parent of a sexual minority child. This made the perspectives of parents of sexual minority youth especially invaluable to the development of an intervention that felt relevant and acceptable to participants. It is important to acknowledge that the researcher not being a member of the target population, nor a parent more generally, likely shaped the development of the intervention materials (e.g., the content or ways in which materials were presented) in ways that are difficult to quantify.

Implications for Research

Although there have been numerous studies outlining mental health disparities for sexual minority youth, including several that have pointed to the role of social environment in this disparity, this study is one of a small number of intervention studies to build upon this body of research to address the disparities that have been identified. In particular, it appears to join Huebner et al.'s (2013) *Lead with Love* video as just the second psychological intervention to use online multimedia to increase a predictor of parent support for sexual minority youth. Although the role of continuing research into understanding mental health in sexual minority youth remains important, this study highlights the critical role of intervention research to address these disparities going forward. In particular, results from this study highlight the potential that brief, online interventions can have in addressing predictors of parental support for sexual minority youth. This study joins a small but growing body of

intervention studies that serve LGBTQ communities to convey that online interventions as short as 30-60 minutes can have a meaningful impact.

Findings from an exploratory analysis suggested that participants who felt the most distress about their child's sexual orientation may have experienced the greatest benefit from the PRISMS intervention. Exploratory analyses highlighted potential demographic differences between participants with higher and lower levels of distress about their child's sexual orientation; further research is needed to better understand the relationship between demographics and parent distress. Future research efforts may also focus on reaching parents with a high level of distress about their child's sexual orientation, who are most in need of support. Online interventions may be particularly well-suited to reach parents who feel distressed about their child's sexual orientation, as these parents may not have accessed in-person resources such as support groups, potentially due to the perceived stigma of having a sexual minority child or other barriers.

Future interventions may also seek to tailor materials to the needs of parents who are at different places in their adjustment to having a sexual minority child. Whereas some participants reported distress about their child's sexual orientation in and of itself, others reported affirming their child's sexual orientation and conveyed that they predominantly struggle with helping their child to navigate a heterosexist world. Potential strategies for tailoring interventions include altering the depth or challenge of information provided based upon participants' distress at pre-test, or allowing participants to select which topics they are most interested in learning about rather than using a one-size-fits-all approach.

Results from this study also point to a promise for systemic, online interventions to increase support for LGBTQ youth among populations besides parents. Potential target

audiences include other family members (e.g., siblings, grandparents), peers, teachers and others within the school system, and religious leaders. Several components of the PRISMS intervention can be applied to serving these populations, including psychoeducation, reflection about one's current use of supportive practices, and rehearsal of providing support.

Findings from this study also point to several implications for recruiting parents of sexual minority youth for online research. First is that using Google advertisements, a strategy that Huebner et al. (2013) found highly effective at reaching a diverse group of parents of sexual minority youth in the past, was not an effective recruitment strategy for the current study. One possible reason for this is the proliferation of mobile devices (e.g., smartphones) during the past several years; a majority of clicks for this study from Google advertisements were on smartphones. Devices that have a small screen and lack a keyboard may be less practical than a desktop or laptop computer for a study that takes an average of about 45 minutes. Alternatively, interventions that are tailored to mobile devices may be a promising future approach. Challenges with Google advertisements also included finding an effective assortment of keywords that would reach the target population but was not so broad as to solicit clicks from unrelated searches (e.g., about when a movie is "coming out;" pornographic searches). Researchers for future studies targeting parents of sexual minority youth would be well-advised to consider these factors when deciding if Google advertisements may be effective for their study.

This appears to be the first psychological study to use MTurk to reach parents of sexual minority youth, and results suggest that this is a promising way to reach this population in future studies. MTurk participants, like participants from Google advertisements in Hueber et al. (2013), were reached from outside of LGBTQ and parent

support networks, and in many cases were not connected to such resources. Participants from MTurk were diverse in terms of subjective socioeconomic status and urbanicity, and more closely resembled population demographics for race and education level than samples from other studies with parents of sexual minority youth. MTurk may be an effective recruitment strategy for future studies with parents of LGBTQ youth.

Implications for Practice

In a society in which sexual minority youth face mental health and academic disparities due to their social environment (Needham & Austin, 2010), there is a need for clinical interventions that seek to address the systems in which sexual minority youth live. Although there is a dearth of therapy research about increasing family support, this study demonstrates that efforts to increase family support can yield meaningful results in parents' preparedness to support their sexual minority child. In particular, several components of the PRISMS intervention can be integrated into counseling with parents of sexual minority youth, including reflection upon existing ways one demonstrates support, rehearsal of supporting one's child, and psychoeducation. An important component of the PRISMS intervention was to connect with parents' emotional experiences (e.g., using quotes from parents about their reaction to their child coming out) while emphasizing the significance of parents' actions to their child; therapeutic interventions may likewise seek a way to find this balance.

Results highlight the importance of parents struggling with their child's sexual orientation to have a confidential space—therapy being one such space—to express their concerns away from their child, a recommendation in prior research with parents of sexual minority youth (Woodward & Willoughby, 2014). Although many participants reported

feeling completely comfortable with their child's sexual orientation, others shared that they feel distressed about their child's sexual orientation and shared biased attitudes toward LGB people on a pre-test measure. Conversations about parents' uncomfortable emotional reactions to a child's sexual orientation are important discussions to have, and should take place away from a child who may interpret such reactions to mean that they are a burden to their parents or feel responsible for managing their parents' reactions to their sexual orientation.

Strengths and Limitations

This study has several strengths. First is the use of an experimental design, which promotes high internal validity. The use of an Internet treatment as usual control group—which participants found credible and expressed a high level of satisfaction with—increased the internal and external validity of findings by minimizing demoralization effects. Second is the use of ANCOVA to test hypotheses—controlling for the effect of covariates can increase the validity of findings. Third is the development of intervention materials based upon feedback from parents of sexual minority children at each step in development, including interviews, usability testing, and pilot testing, as well as the inclusion of feedback from psychologists with relevant research and clinical expertise. Fourth is what this study offers to the field: a novel online intervention that successfully increases parental self-efficacy, as well as new measures of parental self-efficacy and behavioral intentions for sexual minority-supportive parenting that can be used in future studies.

There are also some important limitations to consider. First, this study, like other studies with parents of sexual minority youth, relied upon self-report measures. Self-report questionnaires about parenting can be affected by difficulties with estimating parenting

behavior, social desirability effects, and a tendency to overstate help provided toward one's child (Mandemakers & Dykstra, 2008; Morsbach & Prinz, 2006). In particular, it may be difficult to accurately assess self-efficacy and behavioral intentions, which are more abstract than assessing how frequently one uses a specific parenting practice. Social desirability effects may be particularly salient, as self-reporting bias toward one's own child, or acknowledging difficulty in supporting one's child, may be a particularly vulnerable action for participants to take, given the personal nature of the disclosure. Social desirability effects may also lead participants to underreport bias: in studies of racial bias, for example, more bias is expressed on implicit measures than self-report measures, although the two are correlated (Hofmann, Gawronski, Gschwender, Le, & Schmitt, 2005). Second, the findings from this study only apply immediately at post-test, and it is not possible to make inferences about the extent to which parental self-efficacy or behavioral intentions may be affected by the PRISMS intervention at any point in the future. Likewise, it is important to note that results apply to these predictors of supportive parenting behaviors, and that further research is needed to determine whether this in fact leads to an increase in enacted supportive parenting behaviors. Third, responses on the measure of parental self-efficacy may have conveyed a ceiling effect which led to the non-normal distribution of residuals and, ultimately, a limitation in the interpretation of ANCOVA results. Adaptations to this measure, including a more expansive range of items or the use of a Likert scale with a larger range, may help to reduce this effect. Finally, the current study does not pinpoint which activities in the PRISMS intervention led to the significant increase in parental self-efficacy at post-test, or whether the increase is the product of an interaction between the different

activities. Further research is needed to identify the specific mechanisms through which self-efficacy for supporting one's sexual minority child increases.

Future Directions

Future research may seek to build on the current study in two broad directions: methodological and population-based. On a methodological level, future studies may, as described above, be tailored such that participants can select which areas of parental support they would most like to learn about or feel most relevant. Mantling and dismantling designs can be used to identify which aspects of the PRISMS intervention are effective at increasing parental self-efficacy. Longitudinal studies can also examine the extent to which gains in parental self-efficacy are maintained for some period of time, or result in changes in the use of supportive parenting practices.

On a population level, future research may both apply a narrow scope to tailor materials to specific groups of parents of sexual minority youth, and also modify the current intervention for use with additional populations. Two personal identities—culture and religion—can play a role in parents' reactions to their child coming out; future interventions that are tailored to feature narratives and messages that promote parental support in a way that connects with parents' cultural or religious identities would be an important contribution to the field.

The PRISMS intervention may also be adapted for people other than parents who play important roles in the lives of sexual minority youth, including siblings, extended family members, peers, teachers, and religious leaders. Likewise, the PRISMS intervention may be adapted for parents of transgender youth. During the process of recruiting participants, several facilitators of PFLAG and other support groups noted that all or nearly all of the

parents of teenagers who attended meetings were parents of transgender youth. Given that parental support is a key predictor of mental health outcomes for transgender youth (see Simons, Schrager, Clark, Belzer, & Olson, 2013) and the high level of stigma regarding transgender identities, this is an especially important direction for future research.

An additional direction for future research is developing strategies for the dissemination of the PRISMS intervention. Whereas most participants were recruited from MTurk, MTurk is unlikely to be a viable approach to disseminating a psychological intervention due to the limited pool of participants it will reach and cost of reaching them. Future research may assess the viability of various strategies for disseminating PRISMS, including through healthcare providers (e.g., pediatricians, child or family therapists), school personnel, religious leaders, and personal networks. In particular, research may assess which types of people or organizations are most effective at identifying and recruiting parents who feel distressed about their child's sexual orientation—a population that is difficult to reach yet the most likely to benefit from the PRISMS intervention.

Conclusion

The current study involved the development of a brief, online intervention for parents of sexual minority youth, and testing the efficacy of this intervention in terms of increasing parental self-efficacy and behavioral intentions for sexual minority-supportive parenting. Results indicated that the PRISMS intervention, compared with a control group, significantly increased parental self-efficacy, and suggested that parents who were most distressed about their child's sexual orientation saw the biggest gains in behavioral intentions. The intervention was highly acceptable to participants, at a level similar to the acceptability of an existing psychological resource frequently used by parents of sexual minority youth.

This study is part of a small but growing body of research that seeks to increase parent support for sexual minority youth and, more broadly, create more supportive spaces for sexual minority youth in an effort to address the mental health disparities that they face. Whereas most research has focused on the experiences of sexual minority youth, their experiences are rooted in the systems in which they live and interact. Although measuring the extent to which the PRISMS intervention impacted participants' sexual minority youth was beyond the scope of this study, the current study is an important step in the direction of system-based intervention research to support sexual minority youth.

Moreover, although much attention about sexual minority youth is rightfully focused on the youth themselves, each member of a family system affects each other member of the system. Both the psychological literature and results from this study demonstrate that parents each have their own experiences and needs related to being the parent of a sexual minority child. The PRISMS intervention successfully increased parents' confidence in their ability to support their sexual minority child. If nothing else, that is a positive impact in the life of the parent and meeting an important need. And yet there is reason to believe that such confidence can have a positive impact throughout the family: on the individual lives of parents and youth, and on the relationships they have with each other.

References

Adler, N., & Stewart, J. (2007). The MacArthur scale of subjective social status. *MacArthur Research Network on SES & Health.* Retrieved from http://www.macses.ucsf.edu/Research/Psychosocial/subjective.php.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179-211.

Ajzen, I. (2006). Constructing a theory of planned behavior questionnaire. Retrieved from: http://people.umass.edu/~aizen/pdf/tpb.measurement.pdf. Accessed September 7, 2016.

American Psychological Association. (2008). Answers to your questions: for a better understanding of sexual orientation and homosexuality. Retrieved from http://www.apa.org/topics/lgbt/orientation.pdf.

Andersson, G., Bergström, J., Holländare, F., Carlbring, P., Kaldo, V., & Ekselius, L. (2005). Internet-based self-help for depression: Randomised controlled trial. *The British Journal of Psychiatry*, *187*(5), 456-461.

Andrews, G., Cuijpers, P., Craske, M. G., McEvoy, P., & Titov, N. (2010). Computer therapy for the anxiety and depressive disorders is effective, acceptable and practical health care: a meta-analysis. *PloS One*, *5*(10), e13196. doi:10.1371/journal.pone.0013196.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, *84*(2), 191-215.

Bandura, A. (2006). Guide for constructing self-efficacy scales. *Self-Efficacy Beliefs of Adolescents*, *5*, 307-337.

Banse, R., Seise, J., & Zerbes, N. (2001). Implicit attitudes towards homosexuality: Reliability, validity, and controllability of the IAT. *Zeitschrift für experimentelle Psychologie*, *48*(2), 145-160.

Bartoş, S. E., Berger, I., & Hegarty, P. (2014). Interventions to reduce sexual prejudice: A study-space analysis and meta-analytic review. *The Journal of Sex Research*, *51*(4), 363-382. doi: 10.1080/00224499.2013.871625.

Bean, R. A., Barber, B. K., & Crane, D. R. (2006). Parental support, behavioral control, and Psychological Control among African American youth: The relationships to academic grades, delinquency, and depression. *Journal of Family Issues*, *27*(10), 1335-1355. doi: 10.1177/0192513X06289649.

Ben-Ari, A. (1995). The discovery that an offspring is gay: Parents', gay men's, and lesbians' perspectives. *Journal of Homosexuality*, *30*(1), 89-112.

Bennett, G. G., & Glasgow, R. E. (2009). The delivery of public health interventions via the Internet: Actualizing their potential. *Annual Review of Public Health*, *30*, 273-292. doi: 0163-7525/09/0421-0273.

Bidell, M. P. (2005). The sexual orientation counselor competency scale: Assessing attitudes, skills, and knowledge of counselors working with lesbian, gay, and bisexual clients. *Counselor Education and Supervision*, *44*(4), 267-279.

Bogenschneider, K., Small, S. A., & Tsay, J. C. (1997). Child, parent, and contextual influences on perceived parenting competence among parents of adolescents. *Journal of Marriage and the Family*, 345-362.

Brage-Hudson, D., Campbell-Grossman, C., Keating-Lefler, R., & Cline, P. (2008). New mothers network: The development of an internet-based social support intervention

for African American mothers. *Issues in Comprehensive Pediatric Nursing*, *31*(1), 23-35. doi: 10.1080/01460860701877183.

Carnelley, K. B., Hepper, E. G., Hicks, C., & Turner, W. (2011). Perceived parental reactions to coming out, attachment, and romantic relationship views. *Attachment & Human Development*, *13*(3), 217-236. doi: 10.1080/14616734.2011.563828.

Carpenter, K. M., Stoner, S. A., Mikko, A. N., Dhanak, L. P., & Parsons, J. T. (2010). Efficacy of a web-based intervention to reduce sexual risk in men who have sex with men. *AIDS and Behavior*, *14*(3), 549-557. doi: 10.1007/s10461-009-9578-2.

Cartreine, J. A., Locke, S. E., Buckey, J. C., Sandoval, L., & Hegel, M. T. (2012). Electronic problem-solving treatment: Description and pilot study of an interactive media treatment for depression. *JMIR research protocols*, *1*, 1-11. doi: 10.2196/resprot.1925.

Chandler, J., Mueller, P., & Paolacci, G. (2014). Nonnaïveté among Amazon Mechanical Turk workers: Consequences and solutions for behavioral researchers. *Behavior Research Methods*, *46*(1), 112-130. doi: 10.3758/s13428-013-0365-7.

Chiason, M. A., Shaw, F. S., Humberstone, M., Hirshfield, S., & Hartel, D. (2009). Increased HIV disclosure three months after an online video intervention for men who have sex with men (MSM). *AIDS Care*, *21*(9), 1081-1089. doi: 10.1080/09540120902730013.

Colarossi, L. G., & Eccles, J. S. (2003). Differential effects of support providers on adolescents' mental health. *Social Work Research*, *27*(1), 19-30.

Conley, C. L. (2011a). The development and initial validation of the COPLAG scale: Measuring the concerns of parents of lesbians and gays. *Journal of Gay & Lesbian Social Services*, *23*(1), 30-52. doi: 10.1080/10538720.2010.532083.

Conley, C. L. (2011b). Learning about a child's gay or lesbian sexual orientation: Parental concerns about societal rejection, loss of loved ones, and child well being. *Journal of Homosexuality*, *58*(8), 1022-1040. doi: 10.1080/00918369.2011.598409.

Coyle, D., Doherty, G., Matthews, M., & Sharry, J. (2007). Computers in talk-based mental health interventions. *Interacting with Computers*, *19*(4), 545-562. doi: 10.1016/j.intcom.2007.02.001.

Craig, S. L., Doiron, C., & Dillon, F. (2015). Cultivating professional allies for sexual minority youth: A community-based educational intervention. *Journal of Homosexuality*, *62*(12), 1703-1721. doi: 10.1080/00918369.2015.1078208.

D'amico, E., Julien, D., Tremblay, N., & Chartrand, E. (2015). Gay, lesbian, and bisexual youths coming out to their parents: Parental reactions and youths' outcomes. *Journal of GLBT Family Studies*, *11*(5), 411-437. doi: 10.1080/1550428X.2014.981627.

D'Augelli, A. R., Grossman, A. H., Salter, N. P., Vasey, J. J., Starks, M. T., & Sinclair, K. O. (2005). Predicting the suicide attempts of lesbian, gay, and bisexual youth. *Suicide and Life-Threatening Behavior*, *35*(6), 646-660.

Davis, D. L., & Whitten, R. G. (1987). The cross-cultural study of human sexuality. *Annual Review of Anthropology*, *16*, 69-98.

Desforges, C., & Abouchaar, A. (2003). *The impact of parental involvement, parental support and family education on pupil achievement and adjustment: A literature review* (Vol. 433). Nottingham: DfES Publications.

Detrie, P. M., & Lease, S. H. (2007). The relation of social support, connectedness, and collective self-esteem to the psychological well-being of lesbian, gay, and bisexual youth. *Journal of Homosexuality*, *53*(4), 173-199. doi: 10.1080/00918360802103449.

Diamond, G. M., Diamond, G. S., Levy, S., Closs, C., Ladipo, T., & Siqueland, L. (2012). Attachment-based family therapy for suicidal lesbian, gay, and bisexual adolescents: A treatment development study and open trial with preliminary findings. *Psychotherapy*, *49*(1), 62-71. doi: 10.1037/a0026247.

Dillon, F., & Worthington, R. L. (2003). The lesbian, gay and bisexual affirmative counseling self-efficacy inventory (LGB-CSI): Development, validation, and training implications. *Journal of Counseling Psychology*, *50*(2), 235-251. doi: 10.1037/0022-0167.50.2.235.

Doumas, D. M., King, M., Stallworth, C., Peterson, P., & Lundquist, A. (2015). Evaluation of a parent-based intervention for at-risk adolescents. *Journal of Addictions & Offender Counseling*, *36*(2), 66-80. doi: 10.1002/jaoc.12004.

Dumas, J. S. & Redish, J. (1999). *A practical guide to usability testing*. Exeter, England. Intellect books.

Dunlap, A. (2016). Changes in coming out milestones across five age cohorts. *Journal of Gay & Lesbian Social Services*, *28*(1), 20-38. doi: 10.1080/10538720.2016.1124351.

Durso, L. E., & Gates, G. J. (2012). Serving our youth: Findings from a national survey of services providers working with lesbian, gay, bisexual and transgender youth who are homeless or at risk of becoming homeless. Retrieved from: https://williamsinstitute.law.ucla.edu/wp-content/uploads/Durso-Gates-LGBT-Homeless-Youth-Survey-July-2012.pdf.

Dworkin, J., Hessel, H., Gliske, K., & Rudi, J. H. (2016). A comparison of three online recruitment strategies for engaging parents. *Family Relations*, *65*(4), 550-561. doi: 10.1111/fare.12206.

Edwards, V. J., Holden, G. W., Felitti, V. J., & Anda, R. F. (2003). Relationship between multiple forms of childhood maltreatment and adult mental health in community respondents: results from the adverse childhood experiences study. *American Journal of Psychiatry, 160*(8), 1453-1460. doi: 10.1176/appi.ajp.160.8.1453.

Elliott, J. C., Carey, K. B., & Bolles, J. R. (2008). Computer-based interventions for college drinking: a qualitative review. *Addictive Behaviors, 33*(8), 994-1005. doi: 10.1016/j.addbeh.2008.03.006.

Field, A. (2009). Discovering statistics using SPSS. London, England: SAGE.

Fine, M., & McClelland, S. (2006). Sexuality education and desire: Still missing after all these years. *Harvard Educational Review, 76*(3), 297-338. doi: 10.17763/haer.76.3.w5042g23122n6703.

Forehand, R., Armistead, L., Long, N., Wyckoff, S. C., Kotchick, B. A., Whitaker, D., ... & Kelly, A. (2007). Efficacy of a parent-based sexual-risk prevention program for African American preadolescents: A randomized controlled trial. *Archives of Pediatrics & Adolescent Medicine, 161*(12), 1123-1129. doi: 10.1001/archpedi.161.12.1123.

Freedman, L. (2008). Accepting the unacceptable: Religious parents and adult gay and lesbian children. *Families in Society: The Journal of Contemporary Social Services*, *89*(2), 237-244. doi: 10.1606/1044-3894.3739.

Freud, S. (1951). A letter from Freud. *The American Journal of Psychiatry*.

Friedman, R. M. (1986). The psychoanalytic model of male homosexuality: A historical and theoretical critique. *Psychoanalytic Review, 73*(4), 69-97.

Gallup (2018). Gay and lesbian rights. Retrieved from: http://www.gallup.com/poll/1651/gay-lesbian-rights.aspx. Accessed June 4, 2018.

Glang, A., McLaughlin, K., & Schroeder, S. (2007). Using interactive multimedia to teach parent advocacy skills: An exploratory study. *The Journal of head trauma rehabilitation*, *22*(3), 198-205. doi: 10.1097/01.HTR.0000271121.42523.3a.

Glatz, T., & Buchanan, C. M. (2015). Change and predictors of change in parental self-efficacy from early to middle adolescence. *Developmental psychology*, *51*(10), 1367-1379. doi: 10.1037/dev0000035.

Gonzalez, K. A., Rostosky, S. S., Odom, R. D., & Riggle, E. D. (2013). The positive aspects of being the parent of an LGBTQ child. *Family Process*,*52*(2), 325-337. doi: 10.1111/famp.12009.

Goodrich, K. M. (2009). Mom and dad come out: The process of identifying as a heterosexual parent with a lesbian, gay, or bisexual child. *Journal of LGBT Issues in Counseling*, *3*(1), 37-61. doi: 10.1080/15538600902754478.

Gottschall, A. C., West, S. G., & Enders, C. K. (2012). A comparison of item-level and scale-level multiple imputation for questionnaire batteries. *Multivariate Behavioral Research*, *47*(1), 1-25. doi: 10.1080/00273171.2012.640589.

Grey, J. A., Robinson, B. B. E., Coleman, E., & Bockting, W. O. (2013). A systematic review of instruments that measure attitudes toward homosexual men. *Journal of Sex Research*, *50*(3-4), 329-352. doi: 10.1080/00224499.2012.746279.

Griffin, P. & Ouellett, M. (2003). From silence to safety and beyond: Historical trends in addressing lesbian, gay, bisexual, transgender issues in K-12 schools. *Equity & Excellence in Education*, *36*(2), 106-114. doi: 10.1080/10665680303508.

Griffiths, F., Lindenmeyer, A., Powell, J., Lowe, P., & Thorogood, M. (2006). Why are health care interventions delivered over the internet? A systematic review of the published literature. *Journal of Medical Internet Research, 8*(2), e10. doi: 10.2196/jmir.8.2.e10.

Grov, C., Bimbi, D. S., Nanín, J. E., & Parsons, J. T. (2006). Race, ethnicity, gender, and generational factors associated with the coming-out process among gay, lesbian, and bisexual individuals. *Journal of Sex Research, 43*(2), 115-121. doi: 10.1080/00224490609552306.

Guilamo-Ramos, V., Bouris, A., Jaccard, J., Gonzalez, B., McCoy, W., & Aranda, D. (2011). A parent-based intervention to reduce sexual risk behavior in early adolescence: Building alliances between physicians, social workers, and parents. *Journal of Adolescent Health, 48*(2), 159-163. doi: 10.1016/j.jadohealth.2010.06.007.

Harkness, A. (2016). *Parent messages about sexual orientation and youths' attitudes toward LGB people* (Unpublished doctoral dissertation). University of California, Santa Barbara, CA.

Hatzenbuehler, M. L. (2009). How does sexual minority stigma "get under the skin"? A psychological mediation framework. *Psychological bulletin, 135*(5), 707-730. doi: 10.1037/a0016441.

Heatherington, L., & Lavner, J. A. (2008). Coming to terms with coming out: Review and recommendations for family systems-focused research. *Journal of Family Psychology, 22*(3), 329-343. doi: 10.1037/0893-3200.22.3.329.

Heppner, P. P., Kivlighan, D. M., & Wampold, B. E. (2007). *Research design in counseling*. 3rd edition. Pacific Grove, CA: Brooks/Cole.

Herek, G. M. (2000). Sexual prejudice and gender: do heterosexuals' attitudes toward lesbians and gay men differ? *Journal of Social Issues, 56* (2), 251-266. doi: 10.1111/0022-4537.00164.

Hightow-Weidman, L. B., Pike, E., Fowler, B., Matthews, D. M., Kibe, J., McCoy, R., & Adimora, A. A. (2012). HealthMpowerment.org: feasibility and acceptability of delivering an internet intervention to young Black men who have sex with men. *AIDS Care, 24*(7), 910-920. doi: 10.1080/09540121.2011.647677.

Hofmann, W., Gawronski, B., Gschwendner, T., Le, H., & Schmitt, M. (2005). A meta-analysis on the correlation between the Implicit Association Test and explicit self-report measures. *Personality and Social Psychology Bulletin, 31*(10), 1369-1385. doi: 10.1177/0146167205275613.

Huebner, D. M., Rullo, J. E., Thoma, B. C., McGarrity, L. A., & Mackenzie, J. (2013). Piloting Lead with Love: A film-based intervention to improve parents' responses to their lesbian, gay, and bisexual children. *The Journal of Primary Prevention, 34*(5), 359-369. doi: 10.1007/s10935-013-0319-y.

Israel, T., Choi, A. Y., Goodman, J. A., Matsuno, E., Lin, Y. J., Kary, K. G., & Merrill, C. R. S. (2018). *Reducing internalized stigma for bisexuals: development and efficacy of an online intervention*. Manuscript submitted for publication.

Israel, T., Kary, K. G., Matsuno, E., Goodman, J. A., Choi, A. Y., Lin, Y. J., & Merrill, C. R. S. (2018). *Reducing lesbian internalized stigma: development and efficacy of an online intervention*. Manuscript in preparation.

Johanson, G. A., & Brooks, G. P. (2009). Initial scale development: Sample size for pilot studies. *Educational and Psychological Measurement*. doi:10.1177/0013164409355692

Jones, T. L., & Prinz, R. J. (2005). Potential roles of parental self-efficacy in parent and child adjustment: A review. *Clinical psychology review*, *25*(3), 341-363. doi: 10.1016/j.cpr.2004.12.004.

Kok, G., Harterink, P., Vriens, P., De Zwart, O., & Hospers, H. J. (2006). The gay cruise: Developing a theory-and evidence-based Internet HIV-prevention intervention. *Sexuality Research & Social Policy*, *3*(2), 52-67. doi: https://doi.org/10.1525/srsp.2006.3.2.52.

Kosciw, J., Greytak, E., Palmer, N., & Boesen, M. (2013). GLESN National School Climate Survey. *Retrieved June 19, 2016*.

Kulik, N. L., McNeill, C., Murphy, A. R., & Iovan, S. (2016). Sexual health knowledge, self-efficacy and behavioral intentions following a health fair for adolescents. *Journal of Community Health Nursing*, *33*(3), 119-127. doi: 10.1080/07370016.2016.1191866.

Lee, K. J., & Carlin, J. B. (2017). Multiple imputation in the presence of non-normal data. *Statistics in Medicine*, *36*(4), 606-617. doi: 10.1002/sim.7173.

Leon, A. C., Davis, L. L., & Kraemer, H. C. (2011). The role and interpretation of pilot studies in clinical research. *Journal of Psychiatric Research*, *45*(5), 626-629. doi: 10.1016/j.jpsychires.2010.10.008.

Lewis, G. B. (2009). Does believing homosexuality is innate increase support for gay rights? *Policy Studies Journal*, *37*(4), 669-693. doi: 10.1111/j.1541-0072.2009.00330.x.

Lin, Y. J., & Israel, T. (2012). A computer-based intervention to reduce internalized heterosexism in men. *Journal of Counseling Psychology*, *59*(3), 458-464. doi: 10.1037/a0028282.

Liu, R. T., & Mustanski, B. (2012). Suicidal ideation and self-harm in lesbian, gay, bisexual, and transgender youth. *American journal of preventive medicine*, *42*(3), 221-228. doi: 10.1016/j.amepre.2011.10.023.

Long, A. C., & Palermo, T. M. (2008). Brief report: Web-based management of adolescent chronic pain: Development and usability testing of an online family cognitive behavioral therapy program. *Journal of Pediatric Psychology*, *34*(5), 511-516. doi: 10.1093/jpepsy/jsn082.

Mandemakers, J. J., & Dykstra, P. A. (2008). Discrepancies in parent's and adult child's reports of support and contact. *Journal of Marriage and Family*, *70*(2), 495-506. doi: 10.1093/geronb/gbr029.

McCabe, P. C., Rubinson, F., Dragowski, E. A., & Elizalde-Utnick, G. (2013). Behavioral intention of teachers, school psychologists, and counselors to intervene and prevent harassment of LGBTQ youth. *Psychology in the Schools*, *50*(7), 672-688. doi: 10.1002/pits.21702.

Menvielle, E. J., Tuerk, C., & Jellinek, M. S. (2002). A support group for parents of gender-nonconforming boys. *Journal of the American Academy of Child & Adolescent Psychiatry*, *41*(8), 1010-1013. doi: 10.1097/00004583-200208000-00021.

Merino, S. M. (2013). Contact with gays and lesbians and same-sex marriage support: The moderating role of social context. *Social Science Research*, *42*(4), 1156-1166. doi: 10.1016/j.ssresearch.2013.02.004.

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence. *Psychological Bulletin*, *129*(5), 674-697. doi: 10.1037/0033-2909.129.5.674.

Mohr, J. J., & Rochlen, A. B. (1999). Measuring attitudes regarding bisexuality in lesbian, gay male, and heterosexual populations. *Journal of Counseling Psychology*, *46*(3), 353-369.

Morawska, A., Walsh, A., Grabski, M., & Fletcher, R. (2015). Parental confidence and preferences for communicating with their child about sexuality. *Sex Education*, *15*(3), 235-248. doi: 10.1080/14681811.2014.996213.

Morrow, D. F. (2003). Cast into the wilderness: The impact of institutionalized religion on lesbians. *Journal of Lesbian Studies*, *7*(4), 109-123. doi: 10.1300/J155v07n04_07.

Morsbach, S. K., & Prinz, R. J. (2006). Understanding and improving the validity of self-report of parenting. *Clinical Child and Family Psychology Review*, *9*(1), 1-21. doi: 10.1007/s10567-006-0001-5.

Mustanski, B., Garofalo, R., Monahan, C., Gratzer, B., & Andrews, R. (2013). Feasibility, acceptability, and preliminary efficacy of an online HIV prevention program for diverse young men who have sex with men: the Keep it Up! intervention. *AIDS and Behavior*, *17*(9), 2999-3012. doi: 10.1007/s10461-013-0507-z.

Mustanski, B., & Liu, R. T. (2013). A longitudinal study of predictors of suicide attempts among lesbian, gay, bisexual, and transgender youth. *Archives of sexual behavior*, *42*(3), 437-448. doi: 10.1007/s10508-012-0013-9.

Nadal, K. L., Rivera, D. P., & Corpus, M. J. H. (2010). Sexual orientation and transgender microaggressions: Implications for mental health and counseling. In D. W. Sue (Ed.),

Microaggressions and marginality: Manifestation, dynamics, and impact (pp. 217-240). Hoboken, NJ, US: John Wiley & Sons Inc.

Nadal, K. L., Wong, Y., Issa, M. A., Meterko, V., Leon, J., & Wideman, M. (2011). Sexual orientation microaggressions: Processes and coping mechanisms for lesbian, gay, and bisexual individuals. *Journal of LGBT Issues in Counseling, 5*(1), 21-46. doi: 10.1080/15538605.2011.554606.

Nansel, T. R., Weaver, N. L., Jacobsen, H. A., Glasheen, C., & Kreuter, M. W. (2008). Preventing unintentional pediatric injuries: a tailored intervention for parents and providers. *Health Education Research, 23*(4), 656-669. doi: 10.1093/her/cym041.

Needham, B. L., & Austin, E. L. (2010). Sexual orientation, parental support, and health during the transition to young adulthood. *Journal of Youth and Adolescence, 39*(10), 1189-1198. doi: 10.1007/s10964-010-9533-6.

Nesmith, A. A., Burton, D. L., & Cosgrove, T. J. (1999). Gay, lesbian, and bisexual youth and young adults: Social support in their own words. *Journal of Homosexuality, 37*(1), 95-108.

Newcomb, M. E., Heinz, A. J., Birkett, M., & Mustanski, B. (2014). A longitudinal examination of risk and protective factors for cigarette smoking among lesbian, gay, bisexual, and transgender youth. *Journal of Adolescent Health, 54*(5), 558-564. doi: 10.1016/j.jadohealth.2013.10.208.

Newcomb, M. E., Heinz, A. J., & Mustanski, B. (2012). Examining risk and protective factors for alcohol use in lesbian, gay, bisexual, and transgender youth: A longitudinal multilevel analysis. *Journal of Studies on Alcohol and Drugs, 73*(5), 783-793.

Nieuwboer, C. C., Fukkink, R. G., & Hermanns, J. M. (2013). Online programs as tools to improve parenting: A meta-analytic review. *Children and Youth Services Review*, *35*(11), 1823-1829. doi: 10.1016/j.childyouth.2013.08.008.

Nosek, B. A. (2007). Implicit–explicit relations. *Current Directions in Psychological Science*, *16*(2), 65-69. doi: 10.1111/j.1467-8721.2007.00477.x.

Orleans, C. T., Boyd, N. R., Bingler, R., Sutton, C., Fairclough, D., Heller, D., ... & Baum, S. (1998). A self-help intervention for African American smokers: tailoring cancer information service counseling for a special population. *Preventive Medicine*, *27*(5), S61-S70.

Pacifici, C., Delaney, R., White, L., Nelson, C., & Cummings, K. (2006). Web-based training for foster, adoptive, and kinship parents. *Children and Youth Services Review*, *28*(11), 1329-1343. doi: 10.1016/j.childyouth.2006.02.003.

Parker, J. S., & Benson, M. J. (2004). Parent-adolescent relations and adolescent functioning: Self-esteem, substance abuse, and delinquency. *Adolescence*, *39*(155), 519-530.

Peer, E., Vosgerau, J., & Acquisti, A. (2014). Reputation as a sufficient condition for data quality on Amazon Mechanical Turk. *Behavior Research Methods*, *46*(4), 1023-1031. doi: 10.3758/s13428-013-0434-y.

Peter, T., & Taylor, C. (2014). Buried above ground: A university-based study of risk/protective factors for suicidality among sexual minority youth in Canada. *Journal of LGBT Youth*, *11*(2), 125-149. doi: 10.1080/19361653.2014.878563.

Perrin, A., Duggan, M., Rainie, L., Hege, J., Atkinson, M., Suh, M., Porteus, M., Mercer, A., & Page, D. (2015). Americans' internet access: 2000-2015. *Pew Research Center*.

Retrieved from http://www.pewinternet.org/files/2015/06/2015-06-26_internet-usage-across-demographics-discover_FINAL.pdf.

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, *90*(5), 751-783. doi: 10.1037/0022-3514.90.5.751.

Pew Forum. (2016). Changing attitudes on gay marriage. Retrieved from http://www.pewforum.org/2016/05/12/changing-attitudes-on-gay-marriage/. Accessed September 10, 2016.

Phillips, M. J., & Ancis, J. R. (2008). The process of identity development as the parent of a lesbian or gay male. *Journal of LGBT Issues in Counseling*, *2*(2), 126-158. doi: 10.1080/15538600802125605.

Porter, K. E., & Krinsky, L. (2014). Do LGBT aging trainings effectuate positive change in mainstream elder service providers? *Journal of Homosexuality*, *61*(1), 197-216. doi: 10.1080/00918369.2013.835618.

Rehm, R. S., & Bradley, J. F. (2005). Normalization in families raising a child who is medically fragile/technology dependent and developmentally delayed. *Qualitative Health Research*, *15*(6), 807-820. doi: 10.1177/1049732305276754.

Rheinheimer, D. C., & Penfield, D. A. (2001). The effects of type I error rate and power of the ANCOVA F test and selected alternatives under nonnormality and variance heterogeneity. *The Journal of Experimental Education*, *69*(4), 373-391. doi: 10.1080/00220970109599493.

Richard, L., Dedobbeleer, N., Champagne, F., & Potvin, L. (1994). Predicting child restraint device use: A comparison of two models. *Journal of Applied Social Psychology*, *24*(20), 1837-1847.

Ritchie, K. L. (1999). Maternal behaviors and cognitions during discipline episodes: A comparison of power bouts and single acts of noncompliance. *Developmental Psychology*, *35*(2), 580-589.

Robinson, B. E., Walters, L. H., & Skeen, P. (1989). Response of parents to learning that their child is homosexual and concern over AIDS: A national study. *Journal of Homosexuality*, *18*(1-2), 59-80.

Rothman, E. F., Sullivan, M., Keyes, S., & Boehmer, U. (2012). Parents' supportive reactions to sexual orientation disclosure associated with better health: Results from a population-based survey of LGB adults in Massachusetts. *Journal of Homosexuality*, *59*(2), 186-200. doi: 10.1080/00918369.2012.648878.

Russell, S. T., & Fish, J. N. (2016). Mental health in lesbian, gay, bisexual, and transgender (LGBT) youth. *Annual Review of Clinical Psychology*, *12*, 465-487. doi: 10.1146/annurev-clinpsy-021815-093153.

Rutter, P. A. (2008). Suicide protective and risk factors for sexual minority youth: Applying the cumulative factor model. *Journal of LGBT Issues in Counseling*, *2*(1), 81-92. doi: 10.1080/15538600802077681.

Ryan, C. (2009). Supportive families, healthy children: Helping families with lesbian, gay, bisexual & transgender children. Family Acceptance Project, San Francisco State University.

Ryan, C., Huebner, D., Diaz, R. M., & Sanchez, J. (2009). Family rejection as a predictor of negative health outcomes in white and Latino lesbian, gay, and bisexual young adults. *Pediatrics*, *123*(1), 346-352. doi: 10.1542/peds.2007-3524.

Ryan, C., Russell, S. T., Huebner, D., Diaz, R., & Sanchez, J. (2010). Family acceptance in adolescence and the health of LGBT young adults. *Journal of Child and Adolescent Psychiatric Nursing*, *23*(4), 205-213. doi: 10.1111/j.1744-6171.2010.00246.x.

Saewyc, E. M., Homma, Y., Skay, C. L., Bearinger, L. H., Resnick, M. D., & Reis, E. (2009). Protective factors in the lives of bisexual adolescents in North America. *American Journal of Public Health*, *99*(1), 110-117. doi: 10.2105/AJPH.2007.123109.

Saltzburg, S. (2004). Learning that an adolescent child is gay or lesbian: The parent experience. *Social Work*, *49*(1), 109-118. doi: 10.1093/sw/49.1.109.

Saltzburg, S. (2007). Narrative therapy pathways for re-authoring with parents of adolescents coming-out as lesbian, gay, and bisexual. *Contemporary Family Therapy*, *29*(1-2), 57-69. doi: 10.1007/s10591-007-9035-1.

Schlomer, G. L., Bauman, S., & Card, N. A. (2010). Best practices for missing data management in counseling psychology. *Journal of Counseling Psychology*, *57*(1), 1-10. doi: 10.1037/a0018082.

Schubart, J. R., Stuckey, H. L., Ganeshamoorthy, A., & Sciamanna, C. N. (2011). Chronic health conditions and internet behavioral interventions: a review of factors to enhance user engagement. *CIN: Computers, Informatics, Nursing*, *29*(2), 81-92. doi: 10.1097/NCN.0b013e3182065eed.

Sheets, R. L., & Mohr, J. J. (2009). Perceived social support from friends and family and psychosocial functioning in bisexual young adult college students. *Journal of Counseling Psychology, 56*(1), 152-163. doi: 10.1037/0022-0167.56.1.152.

Shidlo, A., & Schroeder, M. (2002). Changing sexual orientation: A consumers' report. *Professional Psychology: Research and Practice*, *33*(3), 249-259. doi: 10.1037/0735-7028.33.

Shilo, G., Antebi, N., & Mor, Z. (2015). Individual and community resilience factors among lesbian, gay, bisexual, queer and questioning youth and adults in Israel. *American Journal of Community Psychology*, *55*(1-2), 215-227. doi: 10.1007/s10464-014-9693-8.

Shilo, G., & Savaya, R. (2011). Effects of family and friend support on LGB youths' mental health and sexual orientation milestones. *Family Relations, 60*(3), 318-330. doi: 10.1111/j.1741-3729.2011.00648.x.

Simons, L., Schrager, S. M., Clark, L. F., Belzer, M., & Olson, J. (2013). Parental support and mental health among transgender adolescents. *Journal of Adolescent Health*, *53*(6), 791-793. doi: 10.1016/j.jadohealth.2013.07.019.

Snapp, S. D., Watson, R. J., Russell, S. T., Diaz, R. M., & Ryan, C. (2015). Social support networks for LGBT young adults: Low cost strategies for positive adjustment. *Family Relations*, *64*(3), 420-430. doi: 10.1111/fare.12124.

Spettigue, W., Maras, D., Obeid, N., Henderson, K. A., Buchholz, A., Gomez, R., & Norris, M. L. (2015). A psycho-education intervention for parents of adolescents with eating disorders: a randomized controlled trial. *Eating Disorders*, *23*(1), 60-75. doi: 10.1080/10640266.2014.940790.

Stajkovic, A. D., & Luthans, F. (2002). Social cognitive theory and self-efficacy: Implications for motivation theory and practice. *Motivation and Work Behavior*, 126-140.

Steca, P., Bassi, M., Caprara, G. V., & Delle Fave, A. (2011). Parents' self-efficacy beliefs and their children's psychosocial adaptation during adolescence. *Journal of Youth and Adolescence, 40*(3), 320-331. doi: 10.1007/s10964-010-9514-9.

Stephenson, M. T., Quick, B. L., Atkinson, J., & Tschida, D. A. (2005). Authoritative parenting and drug-prevention practices: implications for antidrug ads for parents. *Health Communication, 17*(3), 301-321. doi: 10.1207/s15327027hc1703_6.

Stevenson, M. R. (1988). Promoting tolerance for homosexuality: An evaluation of intervention strategies. *Journal of Sex Research, 25*(4), 500-511.

Stinson, J., McGrath, P., Hodnett, E., Feldman, B., Duffy, C., Huber, A., ... & Campillo, S. (2010). Usability testing of an online self-management program for adolescents with juvenile idiopathic arthritis. *Journal of Medical Internet Research, 12*(3), e30. doi: 10.2196/jmir.1349.

Stoops, W. W., Dallery, J., Fields, N. M., Nuzzo, P. A., Schoenberg, N. E., Martin, C. A., ... & Wong, C. J. (2009). An internet-based abstinence reinforcement smoking cessation intervention in rural smokers. *Drug and Alcohol Dependence, 105*(1), 56-62. doi: 10.1016/j.drugalcdep.2009.06.010.

Strecher, V. J., McClure, J., Alexander, G., Chakraborty, B., Nair, V., Konkel, J., ... & Little, R. (2008). The role of engagement in a tailored web-based smoking cessation program: randomized controlled trial. *Journal of Medical Internet Research, 10*(5), e36. 10.2196/jmir.1002.

Sullivan, M. K. (2004). Homophobia, history, and homosexuality: Trends for sexual minorities. *Journal of Human Behavior in the Social Environment*, *8*(2-3), 1-13. doi: 10.1300/J137v08n02_01.

Thoma, B. C., & Huebner, D. M. (2014). Parental monitoring, parent–adolescent communication about sex, and sexual risk among young men who have sex with men. *AIDS and Behavior*, *18*(8), 1604-1614. doi: 10.1007/s10461-014-0717-z.

Todd, M. E., Oravecz, L., & Vejar, C. (2016). Biphobia in the Family Context: Experiences and Perceptions of Bisexual Individuals. *Journal of Bisexuality*, *16*(2), 144-162. doi: 10.1080/15299716.2016.1165781.

Trevor Project. (2016). About the Trevor Project. Retrieved from: http://www.thetrevorproject.org/section/about. Accessed on September 11, 2016.

Tully, L. A., & Hunt, C. (2016). Brief parenting interventions for children at risk of externalizing behavior problems: A systematic review. *Journal of Child and Family Studies*, *25*(3), 705-719. doi: 10.1007/s10826-015-0284-6.

van Beelen, M. E. J., Beirens, T. M. J., den Hertog, P., van Beeck, E. F., & Raat, H. (2014). Effectiveness of web-based tailored advice on parents' child safety behaviors: randomized controlled trial. *Journal of Medical Internet Research*, *16*(1), e17. doi: 10.2196/jmir.2521.

Van Breukelen, G. J. (2006). ANCOVA versus change from baseline had more power in randomized studies and more bias in nonrandomized studies. *Journal of Clinical Epidemiology*, *59*(9), 920-925. doi: 10.1016/j.jclinepi.2006.02.007.

Vaughan, M. D., & Waehler, C. A. (2010). Coming out growth: Conceptualizing and measuring stress-related growth associated with coming out to others as a sexual

minority. *Journal of Adult Development*, *17*(2), 94-109. doi: 10.1007/s10804-009-9084-9.

Vespa, J., Lewis, J. M., & Kreider, R. M. (2013). America's families and living arrangements: 2012. *Current Population Reports*, *20*, P570.

Vickers, A. J. (2005). Parametric versus non-parametric statistics in the analysis of randomized trials with non-normally distributed data. *BMC Medical Research Methodology*, *5*(1). doi: 10.1111/j.1553-2712.2010.00874.x.

Villarruel, A. M., Loveland-Cherry, C. J., & Ronis, D. L. (2010). Testing the efficacy of a computer-based parent-adolescent sexual communication intervention for Latino parents. *Family Relations*, *59*(5), 533-543. doi: 10.1111/j.1741-3729.2010.00621.x.

Voncken-Brewster, V., Moser, A., Van Der Weijden, T., Nagykaldi, Z., De Vries, H., & Tange, H. (2013). Usability evaluation of an online, tailored self-management intervention for chronic obstructive pulmonary disease patients incorporating behavior change techniques. *JMIR Research Protocols*, *2*(1), e3. doi: 10.2196/resprot.2246.

Wade, S. L., Carey, J., & Wolfe, C. R. (2006). An online family intervention to reduce parental distress following pediatric brain injury. *Journal of Consulting and Clinical Psychology*, *74*(3), 445-454. doi: 10.1037/0022-006X.74.3.445.

Walker, E., & Nowacki, A. S. (2011). Understanding equivalence and noninferiority testing. *Journal of General Internal Medicine*, *26*(2), 192-196. doi: 10.1007/s11606-010-1513-8.

Walls, N. E. (2008). Toward a multidimensional understanding of heterosexism: The changing nature of prejudice. *Journal of Homosexuality, 55*(1), 20-70. doi: 10.1080/00918360802129287.

Webb, T. L., & Sheeran, P. (2006). Does changing behavioral intentions engender behavior change? A meta-analysis of the experimental evidence. *Psychological Bulletin, 132*(2), 249-268. doi: 10.1037/0033-2909.132.2.249.

Weekes, C. V., Haas, B. K., & Gosselin, K. P. (2014). Expectations and self-efficacy of African American parents who discuss sexuality with their adolescent sons: An intervention study. *Public Health Nursing, 31*(3), 253-261. doi: 10.1111/phn.12084.

Williamson, D. A., Martin, P. D., White, M. A., Newton, R., Walden, H., York-Crowe, E., ... & Ryan, D. (2005). Efficacy of an internet-based behavioral weight loss program for overweight adolescent African-American girls. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity, 10*(3), 193-203. doi: 10.1089/chi.2011.07.02.0009.rao.

Willoughby, B. L., & Doty, N. D. (2010). Brief cognitive behavioral family therapy following a child's coming out: A case report. *Cognitive and Behavioral Practice, 17*(1), 37-44. doi: 10.1016/j.cbpra.2009.04.006.

Wood, W. (2000). Attitude change: Persuasion and social influence. *Annual Review of Psychology, 51*(1), 539-570. doi: 10.1146/annurev.psych.51.1.539.

Woodward, E., & Willoughby, B. (2014). Family therapy with sexual minority youths: A systematic review. *Journal of GLBT Family Studies, 10*(4), 380-403. doi: 10.1080/1550428X.2013.828248.

Worthington, R. L., Dillon, F. R., & Becker-Schutte, A. M. (2005). Development, reliability, and validity of the Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals (LGB-KASH). *Journal of Counseling Psychology*, *52*(1), 104-118. doi: 10.1037/0022-0167.52.1.104.

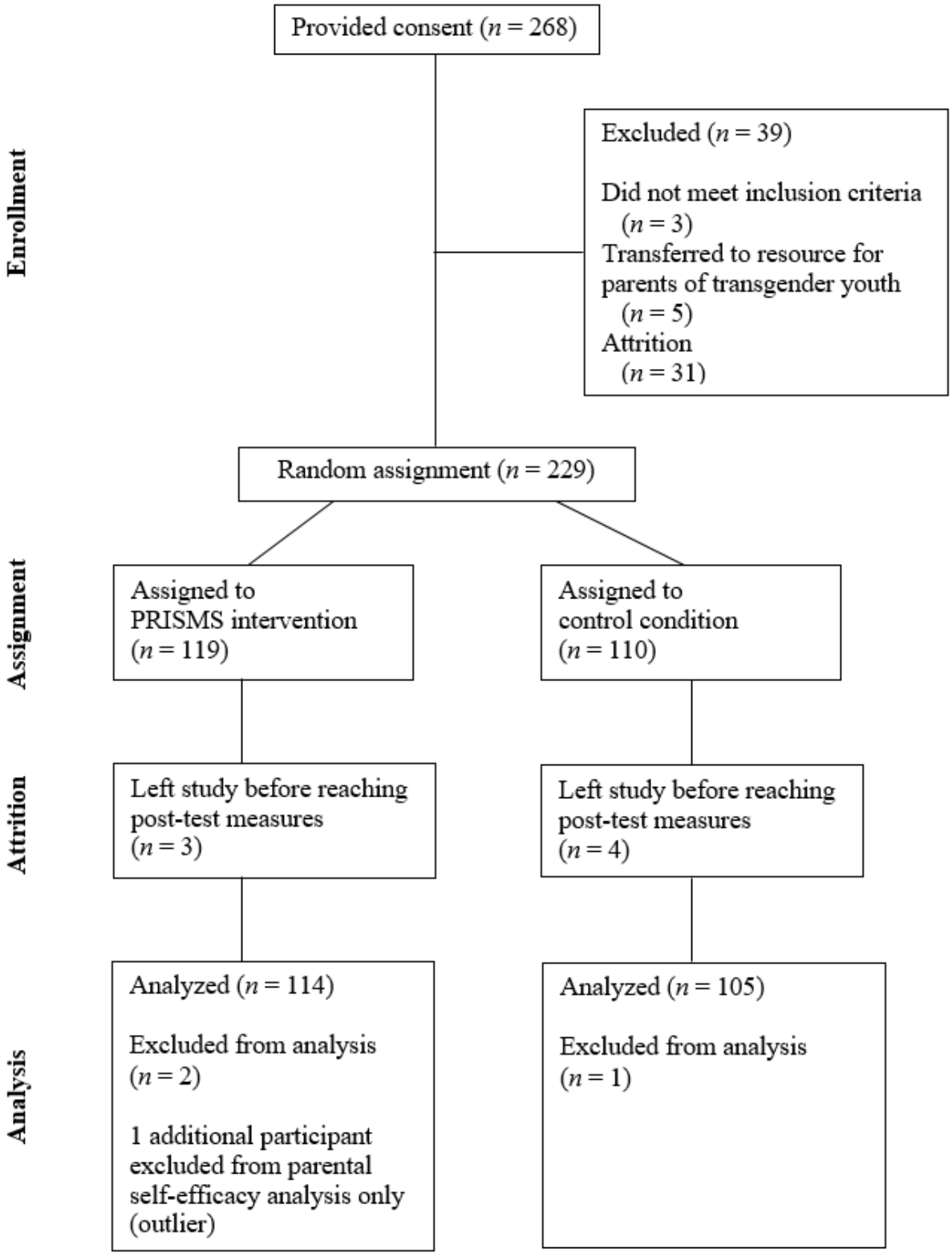

Figure 1. Consolidated standards of reporting trials (CONSORT) diagram of participants

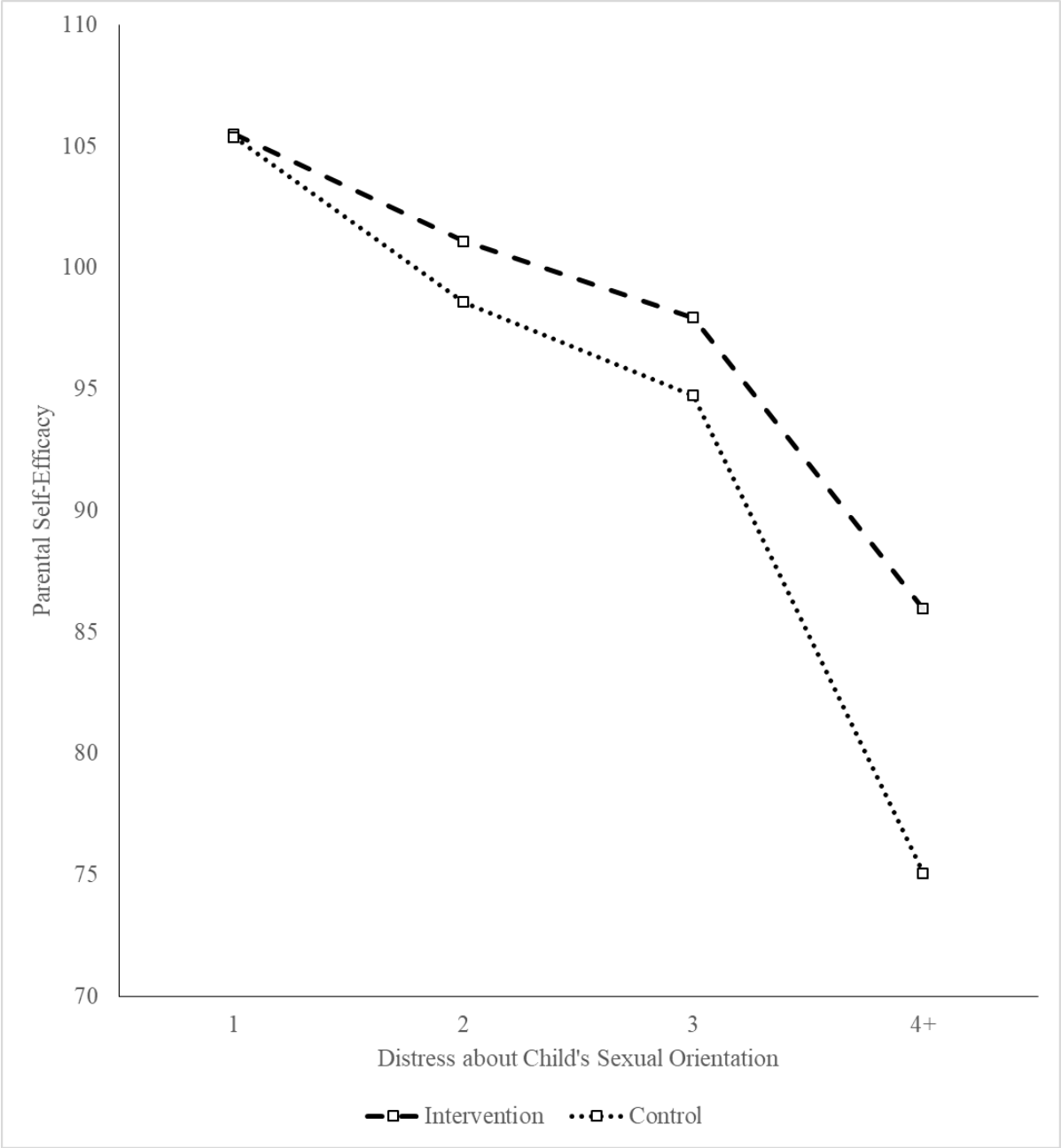

Figure 2. Comparison of parental self-efficacy across intervention and control conditions based upon parent distress about their child's sexual orientation at pre-test.

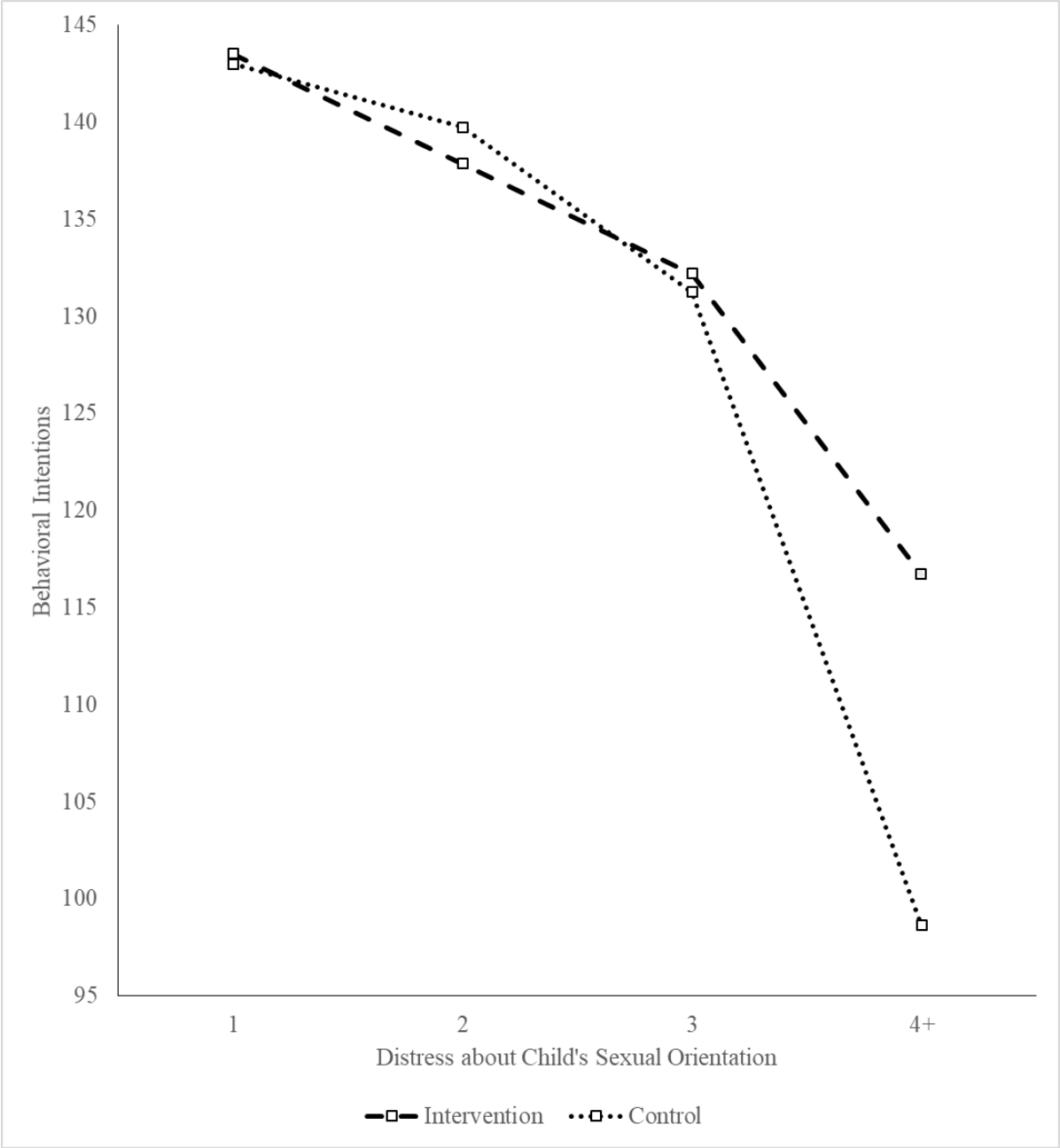

Figure 3. Comparison of behavioral intentions across intervention and control conditions based upon parent distress about their child's sexual orientation at pre-test.

Table 1

Overview of Hypotheses

Hypothesis	Modules that Promote the Outcome	Mechanisms
Hypothesis 1: Parental Self-Efficacy	All modules (primarily psychoeducation, reflection, and rehearsal)	Knowledge about supportive parenting practices, performance accomplishment, vicarious experience, verbal persuasion
Hypothesis 2: Behavioral Intentions	Psychoeducation, reflection, rehearsal	Increased motivation to support child, knowledge about supportive parenting practices, self-justification
Hypothesis 3: Acceptability	All modules (especially normalization and affirmation)	Normalize participants' emotional experiences, use of encouraging language, variety of interactive activities, provide relevant information

Table 2

Demographic Comparison of Intervention and Control Groups

	Intervention *n*	%	Control *n*	%
Race/Ethnicity				
African American/Black	15	13.2%	13	12.4%
Asian	3	2.6%	0	0.0%
Caucasian/White	94	82.5%	87	82.9%
Latina/o or Hispanic	9	7.9%	5	4.8%
Native American/Alaska Native	1	0.9%	2	1.9%
Gender				
Woman	85	74.6%	75	71.4%
Man	28	24.6%	29	27.6%
Education				
Less than High School Diploma	0	0.0%	2	1.9%
Completed High School or GED	10	8.8%	11	10.5%
Some College/Post-Secondary Education	58	50.9%	49	46.7%
Bachelor's Degree or Higher	41	36.0%	42	40.0%
Political Beliefs				
Liberal or Very Liberal	49	43.0%	47	44.8%
Conservative or Very Conservative	16	14.0%	22	21.0%
Moderate	28	24.6%	19	18.1%
Neither Liberal nor Conservative	20	17.5%	16	15.2%
Location				
Suburban	56	49.1%	60	57.1%
Rural	31	27.2%	23	21.9%
Urban	23	20.2%	20	19.0%
Religion				
Christian	78	64.4%	72	68.6%
Catholic	22	19.3%	14	13.3%
Baptist	8	7.0%	15	14.3%
Protestant	5	4.4%	3	2.9%
Mormon	3	2.9%	4	3.8%
Jewish	4	3.8%	1	0.9%
Buddhist	2	1.8%	1	0.9%
No Religion	30	26.3%	28	26.7%
Another Religious Background	4	3.8%	9	8.6%

	Intervention *M*	Intervention *SD*	Control *M*	Control *SD*
Age	42.47	6.47	41.67	6.76
Subjective Socioeconomic Status	5.83	1.66	5.84	1.77

Subjective Socioeconomic Status was measured on a scale from 1 (low) to 10 (high).

Table 3

Demographic and Outness Information about Participants' Children

	n	%
Race/Ethnicity		
African American/Black	31	14.2%
Asian	5	2.3%
Caucasian/White	180	82.2%
Latina/o or Hispanic	20	9.1%
Native American/Alaska Native	4	1.8%
Gender		
Girl	121	55.2%
Boy	86	39.3%
Non-Binary	12	5.5%
Sexual Orientation		
Lesbian or Gay	98	44.7%
Bisexual or Pansexual	63	28.8%
Questioning	37	16.9%
Queer	5	2.3%
Asexual	3	1.4%
Parent Unsure of Child's Sexual Orientation	13	5.9%
Child Came Out to Parent		
Less than 1 week ago	9	4.1%
1 week to 1 month ago	4	1.8%
1-3 months ago	24	11.0%
4-6 months ago	27	12.3%
7-12 months ago	38	17.4%
More than 1 year ago	72	32.9%
Child is not out to parent	41	18.7%
Child is Out to (To Parent's Knowledge)		
Mother	186	84.9%
Father	152	69.4%
Friends	150	68.5%
Siblings	126	57.5%
Grandparents	78	35.6%
People at school or work	74	33.8%
Aunts and uncles	67	30.6%

Cousins	65	29.7%
Family friends	61	27.9%
Religious community	18	8.2%

Table 4

Descriptive Statistics for Measures

Measure	Scale Range	Observed Range	Intervention *M*	Intervention *SD*	Control *M*	Control *SD*
Parental Self-Efficacy	18-108	57-108	100.04	10.59	97.21	13.53
Behavioral Intentions	22-154	88-154	136.06	16.13	133.76	20.19
Sexuality Parenting Practices	17-68	31-68	54.50	9.02	54.94	9.35
LGB-KASH	28-196	79-190	138.28	26.42	137.11	28.01
PANAS Positive Affect	10-50	11-50	37.29	8.84	36.38	8.91
PANAS Negative Affect	10-50	10-36	14.91	6.32	15.00	7.22
Cred-Q	10-70	22-70	60.62	11.80	57.80	9.40

LGB-KASH: Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals; PANAS: Positive and Negative Affect Schedule; Cred-Q: Credibility Questionnaire.

Table 5

Analysis of Covariance for Parental Self-Efficacy based upon Condition

Source	*SS*	df	*MS*	*F*	*p*	η_p^2
Model	9297.04	2	4652.52	44.08	<.001	.291
Intercept	21729.17	1	21729.17	206.07	<.001	.490
Covariate						
Sexuality Parenting Practices	8861.14	1	8861.14	84.03	<.001	.281
Condition	543.26	1	543.26	5.15	.024	.024
Error	22671.10	215	105.45			
Corrected Total	31968.14	217				

Table 6

Analysis of Covariance for Behavioral Intentions based upon Condition

Source	*SS*	df	*MS*	*F*	*p*	η_p^2
Model	27938.10	2	13969.05	68.38	<.001	.388
Intercept	40246.03	1	40246.03	241.07	<.001	.527
Covariate						
LGB-KASH	27649.41	1	27649.41	135.35	<.001	.385
Condition	179.37	1	179.37	.88	.350	.004
Error	42327.05	216	204.29			
Corrected Total	72065.15	218				

Table 7

Descriptive Statistics for Acceptability Questions

Item	Observed Range	Intervention *M*	Intervention *SD*	Control *M*	Control *SD*
Terrible (1) to Wonderful (5)	1-5	4.28	.82	4.13	.87
Difficult (1) to Easy (5)	1-5	4.25	1.01	4.20	1.05
Frustrating (1) to Satisfying (5)	1-5	4.12	1.07	4.07	1.09
Dull (1) to Stimulating (5)	1-5	4.14	1.07	4.15	.95
Overall Satisfaction: Not Satisfied (1) to Highly Satisfied (5)	1-5	4.44	.75	4.31	.88
This resource was a good way to learn more about how to support my child	1-5	4.49	.80	4.29	.85
This resource would be a good way to help other parents with a lesbian, gay, or bisexual child	1-5	4.63	.63	4.43	.81

The last two items were measured on a Likert scale ranging from strongly disagree (1) to strongly agree (5).

Table 8

Helpfulness Ratings of Intervention Materials

Item	Observed Range	*M*	*SD*
Video with other parents' reactions to their child coming out	1-5	4.12	1.17
Graphics with information about a child coming out and supporting an LGB child	1-5	4.21	1.03
Multiple choice questions and follow-up information about the role of parent support	1-5	4.29	1.04
Reflecting on your use of supportive parenting practices and receiving information about additional ways to show support	1-5	4.48	.85
Watching an animated video of a parent-child discussion and writing down the ways in which the parent was supportive and unsupportive of their child	1-5	3.90	1.22
Writing a note with suggestions for a hypothetical friend whose child came out as LGB	1-5	4.01	1.15
Quotes and a slideshow highlighting positive aspects of being a parent of an LGB child and photos of supportive families	1-5	4.14	1.08

All items were assessed on a Likert scale ranging from 1 (not helpful) to 5 (very helpful).

Table 9

Demographic Information based upon Distress about Child's Sexual Orientation

	Low Distress (*n* = *188*)		High Distress (*n* = 30)	
	n	%	*n*	%
Race/Ethnicity				
African American/Black	21	11.2%	7	23.3%
Asian	3	1.6%	0	0.0%
Caucasian/White	157	83.5%	23	76.7%
Latina/o or Hispanic	13	6.9%	1	3.3%
Native American/Alaska Native	3	1.6%	0	0.0%
Gender				
Woman	143	76.1%	16	53.3%
Man	44	23.4%	13	43.3%
Education				
Less than High School Diploma	1	0.0%	1	3.3%
Completed High School or GED	19	10.1%	1	3.3%
Some College/Post-Secondary Education	86	45.7%	14	46.7%
Bachelor's Degree or Higher	70	37.2%	13	43.3%
Political Beliefs				
Liberal or Very Liberal	86	45.7%	10	33.3%
Conservative or Very Conservative	32	17.0%	6	20.0%
Moderate	38	20.2%	9	30.0%
Neither Liberal nor Conservative	31	16.5%	4	13.3%
Location				
Suburban	102	54.3%	13	43.3%
Rural	47	25.0%	7	23.3%
Urban	34	18.1%	9	30.0%
Religion				
Christian	60	31.9%	16	53.3%
Catholic	34	18.1%	2	6.7%
Baptist	20	10.6%	3	10.0%
Protestant	7	3.7%	1	3.3%
Mormon	5	2.7%	2	6.7%
Jewish	4	2.1%	1	3.3%
Buddhist	2	1.1%	1	3.3%
No Religion	52	27.7%	5	16.7%
Another Religious Background	12	6.4%	0	0.0%

	Low Distress (*n = 188*)		High Distress (*n* = 30)	
	n	%	*n*	%
Number of LGB People Known (Besides Child)				
0	12	6.4%	4	13.3%
1 to 5	67	35.6%	14	46.7%
6 to 10	59	31.4%	6	20.0%
11 to 19	26	13.8%	0	0.0%
20+	21	11.2%	0	0.0%
Child's Gender				
Boy	68	36.2%	17	56.7%
Girl	108	57.4%	13	43.3%
Non-Binary	12	6.4%	0	0.0%
Child's Sexual Orientation				
Lesbian or Gay	101	53.7%	16	53.3%
Bisexual or Pansexual	58	30.9%	5	16.7%
Queer	4	2.1%	1	3.3%
Questioning	31	16.5%	6	20.0%
Another Sexual Orientation	2	1.1%	1	3.3%
Unsure of Child's Sexual Orientation	12	6.4%	1	3.3%

	Low Distress (*n = 188*)		High Distress (*n* = 30)	
	M	*SD*	*M*	*SD*
Age	42.27	6.62	41.27	6.37
Subjective Socioeconomic Status	5.93	1.73	5.17	1.42
Religious Importance	4.47	2.82	5.90	2.64

Subjective Socioeconomic Status was measured on a scale from 1 (low) to 10 (high). Religious importance was measured on a scale from 1 (low) to 9 (high).

Appendix A
Questions for Interviews with Parents of Sexual Minority Individuals

After Overview of Module 1 (Normalization of Parent Experiences):

1) What sounds like it would be helpful? What sounds like it would not be helpful or interesting?

After Overview of Module 2 (Psychoeducation):

1) What sounds like it would be helpful? What sounds like it would not be helpful or interesting?
2) I'm trying to figure out how to convey a lot of information in an engaging way. Some of the options I have are text with photos, a video with text and voice over, or a video with audio and related images. Which of those would you find most engaging?

After Overview of Module 3 (Reflection on Supportive Parenting Practices):

1) What sounds like it would be helpful? What sounds like it would not be helpful or interesting?

Afterward:

1) What is missing from this intervention that would make it better suited to your needs?
2) What sounds like it would be the most interesting thing, and what would be the least interesting or engaging thing?
3) Is there anything in the outline that you think might be offensive or off-putting to parents of sexual minority youth?
4) How long would you be willing to spend to complete an intervention that covered these content areas?
5) Please share any other thoughts or comments you have

Appendix B
Intervention Matrix

	Determinants			
Performance Objectives	**Attitude**	**Norms**	**Self-Efficacy**	**Knowledge**
Provide direct support related to the child's sexual orientation	Recognize that direct support benefits the sexual minority child	Feel responsible for supporting their child for who they are	Express confidence in directly supporting the child's sexual orientation	Information about what actions are perceived as supportive
Support the child's LGB friendships and relationships	Recognize that being warm toward a child's sexual minority friends and partners is a component of supporting a child's sexual orientation	Feel that it is a parent's role to support a child's friendships and relationships, outside of a compelling reason not to (e.g., abuse, drugs)	Express confidence in supporting and conveying warmth toward the child's sexual minority friends and partners	Information about what actions toward others are perceived as supportive by the child
Advocate for the child within family and community networks	Recognize that a sexual minority child can benefit from their parents' intervention when faced with certain unsupportive situations	Acknowledge that a parent has a role in promoting supportive family and school environments	Express confidence in supporting the child within family networks; express confidence in supporting the child within school networks (if applicable)	Awareness of situations in which a child may benefit from the intervention of a parent
Reduce use of language and behaviors that may be perceived as unsupportive	Acknowledge that certain language and behaviors--even those intended to be supportive or inoffensive--can have a harmful effect on a sexual minority individual	Acknowledge that parents should not use language or actions that insult their child for who they are	Express confidence in using supportive or neutral language and behaviors in place of unsupportive language and behaviors	Ability to distinguish between supportive and unsupportive language; ability to distinguish between intentions and effects
Seek information and support from additional resources	Acknowledge that parents of sexual minority youth can continually learn; recognize that receiving support as a parent can facilitate being supportive as a parent	Feel responsible for processing reservations or feelings of hurt about the child's sexual orientation away from the child	Express confidence in seeking support (e.g., through psychoeducational resources); express confidence in asking questions when unsure of how to be supportive	Awareness of parent support groups, psychoeducational materials, therapy, and other support

Appendix C

Expert Feedback Questions

Experts reviewed each of the five modules and were presented with a statement of goals before each module. Reviewers were reminded of the goals following the module. The following are the prompts reviewers were provided with:

Prompts:

For Module 1, participants will watch a brief video featuring quotes from parents of LGB individuals about their reactions after their child came out and will be presented with information about a framework of parent adjustment (Philip & Ancis, 2008).

The goal of this module is to acknowledge and affirm participants' emotions about having a sexual minority child and to instill hope about a positive future with one's child. The rationales behind this module are 1) acknowledging parents' difficult emotions may help to increase participant buy-in at the beginning of the study, and 2) information about the trajectory of parents becoming more supportive over time may influence subjective norms about parent support, which can influence behavioral intentions.
-

For Module 2, participants will be provided with information about common experiences of LGB youth; they will also complete a true-false quiz about the role of parent support and be provided with feedback and explanations for each quiz item.

The goal of this module is to provide participants with information about common experiences of sexual minority youth and the importance of parent support for sexual minority youth. The rationale behind this module is that recognizing the importance of parent support may increase receptiveness to information about parent support and may increase behavioral intentions to be supportive.
-

For Module 3, participants will note how frequently they use six supportive parenting strategies. For each strategy, participants will be provided with feedback about how to increase the use of this supportive parenting strategy. Afterward, participants will watch an animated video featuring a parent and their child having a discussion about a bullying incident at school, and will be asked to identify what the parent in the video did that was supportive and unsupportive.

The goals of this module are to 1) provide participants with information about six types of supportive parenting strategies identified in psychological research, 2) to affirm parents for their existing use of these supportive parenting strategies, and 3) to have participants apply the information they learned about supportive parenting strategies. The rationales behind this module are 1) research about parental self-efficacy related to sexuality in general has found that knowledge about sexuality increases parental self-efficacy, 2) increasing perceived control of supportive parenting is hypothesized to increase behavioral intentions, and 3)

highlighting and praising existing parent support may increase parental self-efficacy via performance accomplishment and/or persuasion.
-

For Module 4, participants will be presented with a vignette in which a fellow parent shares that their child recently came out as LGB, and that they would like some advice on how to be supportive. Participants will then be asked to write a short response to the fellow parent.

The goal of this module is for participants to apply information about supportive parenting strategies. The rationales behind this module are 1) writing a letter may increase self-efficacy via performance accomplishment, 2) writing a letter may encourage participants to consider their level of behavioral control in supportive parenting, a predictor of behavioral intentions, and 3) social psychological research suggests that we are more likely to do something if we suggest that action for someone else.

-

For Module 5, participants read parent quotes from a psychological study about the positive aspects of being a parent of an LGB child and will watch a slideshow featuring images of LGB youth and families with LGB people.

The goal of this module is to end the PRISMS intervention on an uplifting note and to instill hope in a positive future for oneself and one's child. The rationale behind this module is that photos and quotes from parents of sexual minority individuals may influence participants' subjective norms about supporting a sexual minority child, which can influence behavioral intentions.

Follow-up Questions:

Following each module

To what extent do you think this module accomplishes the goal?

1 (Not at all) 2 3 4 (Very much)

Please share any feedback, comments, or suggestions about this section:

(Open-ended textbox)

After reviewing the entire intervention

This intervention was designed to increase participants' self-efficacy for using supportive parenting practices. To what extent do you believe the activities would increase a parent's self-efficacy?

1 (Not at all) 2 3 4 (Very well)

This intervention was designed to increase participants' self-efficacy for using supportive parenting practices. To what extent do you believe the activities would increase a parent's self-efficacy?

1 (Not at all) 2 3 4 (Very well)

This intervention was also designed to increase participants' behavioral intentions for using supportive parenting practices. To what extent do you believe the activities would increase a parent's behavioral intentions?

1 (Not at all) 2 3 4 (Very well)

Do you have any additional feedback, comments, or suggestions about the PRISMS intervention as a whole?

(Open-ended textbox)

Appendix D

Usability Testing Questions

After Modules 1, 2, and 4:

1) What sounds like it would be helpful? What sounds like it would not be helpful or interesting?

After Module 1 (Normalization of Parent Experiences):

1) You just read a graphic with information about parent adjustment to having an LGB child. What was your reaction to reading this information?
    a. Follow up, if needed: if you read this graphic not long after your child came out, would you have found this information to instill hope about a positive future, to be overwhelming, or some sort of other reaction?

After Module 2 (Psychoeducation):

1) To what extent does the material in the true-false questions feel useful? What could make it more helpful or useful?

After Module 3 (Reflection on Supportive Parenting Practices):

1) This module presented information about several supportive and unsupportive parenting practices. How do you feel about the amount of information presented?
    a. Follow up, if needed: Do you feel that it was too little information, too much information, or about the right amount of information?
2) To what extent did this module feel engaging or unengaging for you? What would help it to feel more engaging?
3) You watched an animated video in which a parent and child discuss the child's experience of homophobic bullying at school. To what extent does this video resonate with your own experiences?

After Module 4 (Rehearsal of Support):

1) You responded to a vignette in which another parent of an LGB child comes to you looking for support. To what extent does this vignette resonate with you?

After Module 5 (Affirmation):

1) What are your thoughts about the imagery included in the slideshow? Are there types of images you would like to see more or less represented in the slideshow?

Afterward:

1) What was the most interesting or engaging part of this resource?
2) What was the least interesting or engaging part of this resource?
3) How did the tone of the resource feel to you?
    a. Are there any ways in which you wish the tone were different? If so, please elaborate.
    b. Is there anything from this resource that you believe might be offensive or off-putting to parents of LGB youth?
4) To what extent were you able to understand the material in the resource?
    a. Was there anything that was confusing or unclear to you? If so, please elaborate.
5) How would you rate the level of challenge in this resource? Would you, for example, say that it was too easy, too difficult, or about the right level of challenge?
    a. How might you have rated the level of challenge of this resource if you completed it shortly after your child came out?
6) Was there ever a point while using this resource that you felt bored or fatigued—for instance, you had trouble paying attention or found that you had to re-read the material?
    a. If yes, at what point while using this resource did you feel this way?
7) How do you feel about the amount of time it took to use this resource?
8) Are there any changes that could be made to this resource that would help it to better meet your needs, or would have helped it to better meet your needs if you had used it in the past (such as after your child came out)?
9) Please share any other thoughts or comments you have.

Appendix E
Recruitment Materials

MTurk:
Description:
If you're the parent of an LGB child age 13-18, or you think your child may be non-heterosexual, try out a supportive resource as part of a study.

Custom Instructions:
To be eligible to participate and earn payment, you must:
1) Be the parent of a child age 13-18 who identifies as lesbian, gay, bisexual, or otherwise non-heterosexual, or you believe they may be non-heterosexual
2) Your child lives with you full-time or part-time
3) Live in the United States

If you participate, you will be directed to an external website and receive a redemption code to enter in MTurk at the end of the study.

PFLAG/Religious Groups:
Hello,

My name is Josh Goodman—I'm a psychology graduate student at UC Santa Barbara and a member of the LGBTQ community. I'm looking for parents of lesbian, gay, and bisexual (LGB) youth to try out an online resource as part of a study. The resource is interactive and designed to support parents of LGB youth. If you're a parent of an LGB child age 13-18 and are interested in participating or learning more, please visit the following website: http://ucsbeducation.az1.qualtrics.com/jfe/form/SV_1zvdYnxvDuJf0Et?Source=08. If you're not a parent of an LGB teen but know others who are, you can help by sharing this with them. Participating takes 30-45 minutes; it would be most helpful if you could try out the resource by May 25.

Thank you for your consideration! Your support can help to expand the availability of psychological resources for parents of LGB youth.

Sincerely,
Josh Goodman
jgoodman@education.ucsb.edu

Sample Social Media Advertisement:

Google Advertisements:

Did your child come out? | Participate in a study
Ad ucsbeducation.az1.qualtrics.com
Seeking parents of LGB youth ages 13-18 to participate in an online study

Is your child lesbian/gay/bi? | This resource may help
Ad ucsbeducation.az1.qualtrics.com
Try a supportive online resource for parents of LGB youth ages 13-18 for a study

Most clicked upon keywords:

Coming out	31
Gay kids	19
Gay child	11
Signs my son is gay	8
Signs your child is gay	7
Is my daughter gay	6
Parent of gay child	5
Parenting a gay child	5
My daughter is gay	4
My son is gay	4

All other keywords yielded three or fewer clicks.

Appendix F

Informed Consent

Dear participant,

We are researchers at the University of California, Santa Barbara who are studying the experiences of parents of lesbian, gay, and bisexual (LGB) youth. Below is information about the study:

Am I eligible to participate?
You are eligible to participate if you 1) are the parent or primary caretaker of a child age 13-18 who you know or believe to be LGB or attracted to the same sex, 2) your child lives with you at least part-time, and 3) you live in the United States.

What will I do if I participate in this study?
If you choose to participate, you will receive access to a resource designed to help parents of LGB youth. We'll also ask some questions before and after.

How long will it take to participate?
We expect that participating will take 30-45 minutes.

Will I get anything for participating?
It is possible that participating in this research may provide you with information or lead to insights that you find helpful as a parent of an LGB child. In addition, by participating, you are eligible to receive a $5 gift card (for Amazon.com, Target, or Walmart) or receive a $5 Amazon.com credit through Amazon Mechanical Turk (MTurk).

What if I do not want to answer a question OR I want to end my participation?
Your participation is completely voluntary. You may decide not to answer any particular question, and you may withdraw from the study at any time. You may still receive the gift card or credit if you do not answer certain items, but you must reach the final page of the study in order to receive a code for accessing this incentive.

Is what I say anonymous/confidential?
We will not ask for your name, and you are not required to provide any identifying information to participate, so your results will be anonymous. The only people who will have access to your full results will be the researchers. We will only share aggregated results (summed from many people) with others, with the exception of brief, anonymous quotes from written responses. Information from this study will be not shared in any way other than outlined here, except as required by law.

At the end of this study, you will have the option to share your email address to receive a gift card, to participate in a follow-up study, or if you are interested in hearing about the results of this study. Our records of your email address will be

stored separately from your results.

Are there any risks for me?
There are limited risks to participating in this study. It is possible that you may find certain materials or activities uncomfortable.

Where can I direct questions or comments I have about this study?
If you have any questions or comments about this study, you can contact the researchers Joshua Goodman at jgoodman@education.ucsb or Dr. Tania Israel at tisrael@education.ucsb.edu or 805-893-5008. If you have questions regarding the rights of research participants, the UCSB Human Subjects Committee can be contacted at 805-893-3807.

If you wish to participate, you may click "I consent." Doing so indicates that you have read this informed consent statement, are 18 years or older, and have decided to participate in the study described above.

- I consent
- I do not consent

Appendix G
Participant Screening Questions

1) Are you the parent, legal guardian, or primary caretaker of a child age 13-18?
    a. Yes
    b. No

2) Among your children ages 13-18, does at least one child identify as gay, lesbian, bisexual, another non-heterosexual orientation (e.g., pansexual, queer, unlabeled), or as questioning their sexual orientation?
    a. Yes
    b. No

3) If no, do you believe that at least one of your children ages 13-18 is likely to be gay, lesbian, bisexual, or otherwise non-heterosexual?
    a. Yes—likely
    b. No—unlikely
    c. Not applicable

4) Among your children ages 13-18, does at least one identify as transgender or gender non-binary (e.g., genderqueer, genderfluid, agender)?
    a. Yes
    b. No
    c. Not sure

5) What best describes your child's living arrangements with you?
    a. My child lives with me full time
    b. My child lives with me part-time (e.g., split time with another parent, when home from college)
    c. My child does not live with me

6) Do you currently live in the United States?
    a. Yes
    b. No

Appendix H
PRISMS Intervention

Selected examples of materials from the PRISMS intervention. Pictures and graphics not included. The response page for each item will vary slightly based upon the participant's response on the first page.

Multiple choice item and response from the Psychoeducation module:

LGB youth who perceive their parents as supportive have higher levels of _____ compared to LGB youth who perceive their parents as unsupportive

- Anxiety
- Self-Esteem
- Unprotected Sex

You're correct! The answer is SELF-ESTEEM.

LGB youth who feel a high level of support from family and friends have higher self-esteem than LGB youth who don't feel as supported. Among family, friend, and LGBTQ community support, **family support has the biggest influence on LGB youth's self-esteem.**

Reflection items about direct support for a child's sexual orientation and a psychoeducational response with suggestions for increasing support from the Reflection on Existing Support module.

Please answer the following items based upon the past three months. If the item does not apply during the past three months, answer based upon how you would have responded:

If my child wants to discuss sexual orientation or sexuality with me, I:

- Change the topic / avoid discussing sexual orientation
- Use the opportunity to express my concerns about my child's sexual orientation or their safety as an LGB person
- Am fine with having a brief conversation about it from time to time
- Am open to discussing it as much as my child wants

When my child experiences bullying or mistreatment due to their sexual orientation, I consider it most important to:

- Suggest ways to avoid future mistreatment (e.g., changing their appearance)
- Provide emotional support that acknowledges my child's feelings
- Encourage my child to move on from what happened

I refer to my child's sexual orientation using the identity label they prefer (e.g., lesbian, gay, bisexual, pansexual, queer, or no label):

- Always
- Most of the Time
- Sometimes
- Rarely
- Never

These are all about direct support for your child's sexual orientation. LGB youth benefit when they know that their parents support their sexual orientation. Direct support for your child's sexual orientation can be as straightforward as saying "I love you and support you for who you are," but it can be so much more than that, too.

It's great that you're already directly supporting your child's sexual orientation! Below are some suggestions on ways to directly support your child's sexual orientation. Some of these may be familiar while others may be new:

- **Be open to discussing sexual orientation with your child**--for instance, their identity or topics in the news
- Always refer to your child's sexual orientation using the terms that they use.
- **Support your child's gender expression**: masculine, feminine, both, or neither.
- **Provide emotional support when your child experiences bullying or mistreatment**, or when your child may be affected by an anti-LGB incident in their community. Acknowledge and validate their experience of feeling targeted; avoid asking your child to "brush it off" or dismissing how difficult the experience may be for your child.
- **Connect your child with LGB resources** (e.g., Gay-Straight Alliance, books, or YouTube videos) if they are not already connected.

Links to videos included in the PRISMS intervention:

Parent reactions to their child coming out (from the Normalizing Parenting Experiences module):
https://www.youtube.com/watch?v=ZOs6MlkMlIQ

Animated parent-child conversation (from the Reflection on Existing Support module)
https://www.youtube.com/watch?v=ayFh3-5_240

Slideshow (from the Affirmation module)
https://www.youtube.com/watch?v=II-kRiGyTMk

Appendix I

Control Condition Comprehension Quiz Items

Each of the up to 17 questions from the control resource that participants selected was followed with a multiple choice or true-false comprehension item:

Sexual orientation refers to a person's:
-Identities and attractions
-Preferred sexual acts
-Whims in which gender they are attracted to

A person needs to have dated someone of the same sex to know for certain that they are lesbian, gay, or bisexual:
-True
-False

Sexual orientation is understood by scientists to be a personal choice:
-True
-False

Which of the following is most true?
-LGB people are either out or they aren't: if a person is out to you, they're out to everybody
-Most LGB people disclose their sexual orientation to a limited number of people—if a person has told you they're LGB, it's likely that few other people know
-LGB people come out to varying degrees—some LGB people are out to a small number of people whereas others are out to everyone in their lives

Which of the following is known to help LGB youth succeed despite stress:
-Problem-solving skills
-A high level of certainty in their LGB identity
-Waiting to come out at school to minimize bullying

When should LGB youth come out?
-As soon as they think they might be LGB
-It depends upon their preferences and how safe they feel coming out to others
-After they have felt that they are LGB for some period of time
-As soon as they are certain of their specific sexual orientation (e.g., whether they are lesbian/gay or bisexual)

Homosexuality/bisexuality is considered a psychological disorder by most mental health organizations?
-True
-False

Research about sexual orientation change efforts such as conversion therapy has found that:
-Conversion therapy is highly effective at reducing same-sex attractions
-Conversion therapy reduces same-sex attractions for gay and bisexual men, but the evidence is mixed with lesbian and bisexual women
-Conversion therapy can reduce same-sex attractions, but only if the person is highly motivated to change
-Conversion therapy does not reduce same-sex attractions

Which best describes the experiences lesbian, gay, and bisexual people have with discrimination and prejudice?
-Nearly all LGB people experience discrimination and prejudice today
-LGB people used to experience discrimination and prejudice in the past, but it is uncommon today
-LGB people have never been the subject of widespread discrimination and prejudice

There is a well-established link between experiencing prejudice and negative mental health outcomes (e.g., depression) among LGB people:
-True
-False

One way to reduce prejudice toward lesbian, gay, and bisexual people is:
-Declaring one's own heterosexual identity to clarify that one is not lesbian, gay, or bisexual
-Giving equal consideration to both anti-LGB and pro-LGB viewpoints
-Interpersonal contact with LGB people (e.g., friends or co-workers)

Which best describes the relationship outcomes of LGB people?
-Most LGB people end up alone and unhappy
-A large percentage of LGB people are in a relationship
-Nearly all LGB people are in a relationship

Compared to children of heterosexual parents, children of LGB parents:
-Experience a similar development of gender identity
-Experience significant delays in the development of gender identity
-Are more likely to have a distorted sense of gender

Appendix J
Parental Self-Efficacy Scale

Instructions modified from Bandura (2006); scale anchors from Dillon and Worthington (2003):

The following list contains items about different things that a parent may do. Please rate how **confident** you are in your ability to do them **as of now**. Rate your degree of confidence by selecting a number from 1 to 6 using the scale below.

1	2	3	4	5	6
Not at all confident		Moderately confident			Highly confident

"I can…"

Provide emotional support if my child is struggling with rejection due to their sexual orientation

Have a conversation about a topic related to sexual orientation, if my child wants to

Encourage other family members to support (or not reject) my child's sexual orientation

Welcome my child's lesbian, gay, and bisexual friends into my home

Invite my child's current or future same-sex partner into my home

Watch an LGB-themed movie or TV show with my child

Have conversations with my child about their current or future same-sex relationships

Treat my child's current or future same-sex partner with the same respect I would give an other-sex partner

Avoid sharing my child's sexual orientation with anyone they do not want to come out to

Ask about crushes or attractions using language consistent with the gender(s) my child is attracted to

Use the sexual orientation term that my child identifies with when referring to their sexual orientation

Show empathy when my child is mistreated due to their sexual orientation

Seek out information when I have a question about LGB people or communities

Process feelings of discomfort about my child's sexual orientation away from my child (e.g., in a journal, with a confidential friend)

Have regular conversations with my child about a range of topics

Demonstrate that I love my child unconditionally

Do enjoyable activities with my child

Seek the support of other people as I navigate my role as a parent of an LGB child

Appendix K
Behavioral Intentions Scale

Instructions modified from Bandura (2006) and Ajzen (2006).

The following list contains items about different things that a parent may do. Please rate how **likely** you are to do them **during the next three months**. Rate your degree of intention by selecting a number from 1 to 7 using the scale below.

"During the next three months, I intend to _____"

1	2	3	4	5	6	7
Highly						Highly
Unlikely						Likely

Spend time doing fun activities with my child

Show warmth when around my child

Watch an LGB-related TV show or movie with my child

Tell my child that they will never be happy so long as they are not heterosexual*

Be upfront and honest with my child about my discomfort with their lesbian, gay, or bisexual identity*

Ask about crushes or attractions using language consistent with the gender(s) my child is attracted to

Seek out information (e.g., in a web search) when I have a question about LGB people or communities

Only share my child's sexual orientation with others if I have their permission

Have regular conversations with my child about a range of topics

Advocate for my child if they are mistreated due to their sexual orientation

Use a disapproving tone of voice when discussing LGB people or topics*

Suggest that my child pursue heterosexual relationships*

Provide emotional support when my child is mistreated due to their sexual orientation

Encourage other family members to support my child's sexual orientation (if my child is out/plans to come out to them)

Tell my child I wish they were heterosexual*

Avoid discussing topics related to sexual orientation*

Ask my child about their same-sex relationship, now or in the future

Show my child that I am interested in learning about the LGB community activities they participate in (e.g., their activities, media, or friendships)

Ask my child how they are doing if there is a local or national incident targeting LGB communities

Use words such as "faggot" or "dyke" to describe my child*

Treat my child's current or future same-sex partner with the same respect I would give an other-sex partner

Process feelings of discomfort about my child's sexual orientation away from my child (e.g., in a journal, with a confidential friend)

*Item is reverse scored.

Appendix L
Selected Quotes from Participant Feedback

What participants liked most or found most helpful:

Animated Parent-Child Conversation:
"The conversation with the boy and mom. That has been me exactly having that same conversation saying I didn't want her to be hurt or hated on. So, now seeing it played out like that, I see another way to handle that situation that will empower my child and let them know there is nothing wrong with them that they need to hide."

"I have never told my son not to act gay to protect himself around other people but it is certainly something that I worry about when he is certain crowds and I have thought about telling him to act differently when he is with certain people so that they will not know he is gay just because I want so badly to protect him but I have never said it out loud. After seeing how badly it sounds coming from that mom, I would for sure never say that to him now."

Reflection about Parent Support:
"I liked the questions that made you think about things and the situations you may be in. I don't know yet if my child is gay or not, but this really put things in perspective for me to know what to do in case they are. And it also made me think about my relationship with my child whether or not they are gay. I want a good relationship with them regardless and this made me realize what I can do now either way."

"I loved the interactive questions, where afterwards it had an explanation and information."

Emotional Connection with Adjustment Process:
"I really liked the messages that parents shared, from confusion to acceptance and even sadness. It made me feel okay about experiencing some of the emotions I have had."

"Letting the parent know it's normal to be confused and unsure what to do."

Psychoeducation:
"I liked the multiple choice questions, it made me reflect and also educated me on the correct answer."

Affirmation of Existing Support:
"It reaffirmed everything I am doing to make my daughter feel loved and accepted. It also reminded me that I need to make sure I'm doing everything I can to advocate for her. Especially at school."

What participants liked the least or found the least helpful:

Animated Parent-Child Conversation:
"The mechanical sounding voices in the video were offputting."

"I didn't care for the animated video that much, just seemed kind of rushed and fake to me."

Affirmation Slideshow:
"The slideshow was okay, but seemed a bit pointless because most of the slides you had no idea if they were LGB or just heterosexual."

"The video at the end was just images and really not anything important other than showing support. Maybe more statements from parents would have been better."

Writing a Message to a Fellow Parent:
"Writing the text message to another parent wasn't that helpful since I'm still struggling with things myself. Can't properly help others until I get things sorted."

Wanting Additional Strategies, Information, or Resources:
"I think the video where the mother told her son not to be out at school. I understand the reasoning behind it and I agree with the sentiment. But how do I keep my child safe, emotionally and physically, while in some environments? I know I love my daughter to the ends of the earth and I would do anything to protect her, but there are some horrible situations that she is going to face. How can I keep her safe?"

"As a parent who thinks their child is questioning, I don't know how to approach that with her or if I should just not approach it at all and try to just let her know in general that I support her in every way of life."

Perceived Assumption of Parental Difficulty:
"What I dislike the [most] is the assuming that all parents are going to go through some kind of emotional breakdown because of their child's sexual preferences. I do understand that sadly there are many out there that do not want to accept their kids for who they are and for those people I think this is a good program. However, it's a little biased and might make some people angry as telling them how to feel."