

3-1-2018

Evaluation of an Intimate Partner Violence Training for Home Visitors Using the Theory of Planned Behavior

Christiaan G. Abildso
West Virginia University

Angela Dyer
West Virginia University

Alfgeir L. Kristjansson
West Virginia University

Michael J. Mann
West Virginia University

Thomas Bias
West Virginia University

See next page for additional authors

Follow this and additional works at: <https://researchrepository.wvu.edu/ctsi>



Part of the [Medicine and Health Sciences Commons](#)

Digital Commons Citation

Abildso, Christiaan G.; Dyer, Angela; Kristjansson, Alfgeir L.; Mann, Michael J.; Bias, Thomas; Coffman, Jessica; Vasile, Emily; and Davidov, Danielle, "Evaluation of an Intimate Partner Violence Training for Home Visitors Using the Theory of Planned Behavior" (2018). *Clinical and Translational Science Institute*. 769.

<https://researchrepository.wvu.edu/ctsi/769>

This Article is brought to you for free and open access by the Centers at The Research Repository @ WVU. It has been accepted for inclusion in Clinical and Translational Science Institute by an authorized administrator of The Research Repository @ WVU. For more information, please contact ian.harmon@mail.wvu.edu.

Authors

Christiaan G. Abildso, Angela Dyer, Alfgeir L. Kristjansson, Michael J. Mann, Thomas Bias, Jessica Coffman, Emily Vasile, and Danielle Davidov



Published in final edited form as:

Health Promot Pract. 2018 March ; 19(2): 194–202. doi:10.1177/1524839917728050.

Evaluation of an Intimate Partner Violence Training for Home Visitors Using the Theory of Planned Behavior

Christiaan G. Abildso, PhD, MPH¹, Angela Dyer, MSPH¹, Alfgeir L. Kristjansson, PhD¹, Michael J. Mann, PhD¹, Thomas Bias, PhD¹, Jessica Coffman, MA¹, Emily Vasile, MPAff¹, and Danielle Davidov, PhD¹

¹West Virginia University, Morgantown, WV, USA

Abstract

Introduction—Intimate partner violence (IPV) is a public health issue with recent intervention focus by home visiting programs with at-risk families in the United States. Home visitors are typically required to assess IPV but feel unprepared to do so and desire training. Our aim was to evaluate the impact of a daylong IPV training on the intention to enact three key IPV behaviors (screening, making referrals, and safety planning) using the theory of planned behavior.

Method—Survey of 125 home visitors in West Virginia was conducted before and after a daylong IPV training.

Results—The IPV training had a positive impact on intention to perform the three behaviors of interest, with the greatest impact on the intention to conduct IPV screenings.

Discussion—Results provide important preliminary evidence supporting the effectiveness of professional development as a means of increasing intentions to conduct activities related to IPV. The impact on IPV screening intention is promising because screening is the first step in addressing IPV.

Conclusion—The IPV training proved beneficial in increasing intentions and such trainings should be expanded, but further study is needed to link intentions to subsequent behaviors to address IPV with at-risk families.

Keywords

domestic/intimate partner violence; violence prevention; impact evaluation; training; behavior change theory; theory

Introduction

Intimate partner violence (IPV) is defined by the Division of Violence Prevention at the U.S. Centers for Disease Control and Prevention, Injury Prevention & Control, Division of Violence Prevention (n.d.) as “physical violence, sexual violence, stalking or psychological aggression (including coercive acts) by a current or former intimate partner.” According to

Address correspondence to Christiaan G. Abildso, West Virginia University School of Public Health, PO Box 9190, 1 Medical Center Drive, Morgantown, WV 26506-9190, USA; cgabildso@hsc.wvu.edu.

the 2010 *National Intimate Partner and Sexual Violence Summary Report*, an estimated 74.7 million men and women experienced IPV in their lifetime, including 35.6% of women and 28.5% of men (Black et al., 2011). This is comparable to global estimates demonstrating that approximately 30% of women who have been in a relationship have experienced physical or sexual IPV worldwide (World Health Organization, 2013). Furthermore, IPV is associated with significant acute and long-term health consequences; according to the National Crime Victimization Survey, almost half of IPV victims experience physical injury (e.g., gunshot or knife wounds, internal injuries, loss of consciousness, broken bones, cuts, bruises) as a result of violent victimization episodes and over one third require medical treatment for their injuries (Truman & Morgan, 2014).

Background/Literature Review

A number of interventions to assess and respond to IPV among women of childbearing age have been developed and tested due to increased risk for IPV among this population (Bair-Merritt et al., 2014; Wathen & MacMillan, 2003; Institute of Medicine, 2011). The U.S. Preventive Services Task Force recommends that clinicians in health care settings screen all women of childbearing age for IPV and the Affordable Care Act mandates insurance cover for IPV screening and counseling for women (Bair-Merritt et al., 2014; Nelson, Bougatsos, & Blazina, 2012; U.S. Department of Health & Human Services, 2013). While several large randomized controlled trials have failed to demonstrate reductions in exposure to violence or improvements in health or quality of life as a result of universal IPV screening (MacMillan et al., 2009; Klevens et al., 2012; Taft et al., 2013), there is evidence of positive benefit from other brief primary care-based interventions, especially on abused women's use of community or IPV-related referral resources (Bair-Merritt et al., 2014). Characteristics of these primary care IPV interventions include a focus on empowering women to meet their personal goals, supportive and empathetic discussions, and information sharing surrounding IPV, safety planning, and local referral resources (Bair-Merritt et al., 2014). Still, a variety of factors must be in place within health care organizations to facilitate effective screening and response. O'Campo, Kirst, Tsamis, Chambers, and Ahmad (2011) suggest that comprehensive programs with multiple components and institutional support coupled with adequate provider training and immediate access to referrals and supportive services demonstrate the most promise for increasing provider self-efficacy to assess for and respond to IPV and, in turn, increase the rate of IPV disclosure and identification.

Home visiting programs have been used as a vehicle to assess and respond to IPV because of the tremendous in-home access that these programs have with pregnant women and families, especially among at-risk populations (Bair-Merritt et al., 2010; Jack et al., 2012; Shepard, Elliott, Falk, & Regal, 1999). Evidence-based home visiting programs generally use a psychoeducational approach and provide access to community resources to support families to improve six targeted outcomes for at-risk children, including reduction in crime or domestic violence (U.S. Department of Health & Human Services, Health Resources and Services Administration, 2016). Findings from a randomized controlled trial reported by Bair-Merritt et al. (2010) showed significantly lower incidence rates of IPV victimization and perpetration among mothers in the Hawaii Healthy Start Program receiving early childhood home visiting than a control group in the same program not receiving home

visiting services. A recent evaluation of the Domestic Violence Enhanced Perinatal Home Visits trial (Sharps et al., 2016) also demonstrated reductions in IPV over time when using trained home visitors (HVs) to screen for IPV and make appropriate referrals. The Nurse–Family Partnership, the United States’ largest home visitation program, is also engaged in a longitudinal randomized controlled trial to evaluate the impact of addressing IPV during home visits on outcomes for enrolled mothers (Jack et al., 2012).

Rates of IPV vary across the United States, with unique disparities in West Virginia (WV) where the current project took place (Black et al., 2011). According to the 2010 *National Intimate Partner and Sexual Violence Summary Report*, lifetime prevalence of IPV among women in WV (33.6%) was slightly lower than the national lifetime prevalence (35.6%) but was the highest in the country for men (41.2%; Black et al., 2011). The presence of numerous socioeconomic and health disparities may complicate the nature and consequences of IPV within the highly rural state. Research has demonstrated that rural IPV can be more frequent and severe than IPV perpetrated in nonrural areas (Peek-Asa et al., 2011) and that rural partners are more likely to use weapons, such as knives or guns, against their victims (Logan, Walker, Cole, Ratliff, & Leukefeld, 2003). Rural partners are also more likely to be killed as a result of IPV (Gallup-Black, 2005), and in WV over one third of all homicides have been found to be related to IPV (WV State Police, 2012).

The WV Home Visitation Program (WVHVP) is administered by the Office of Maternal, Child, and Family Health in the WV Department of Health and Human Resources. The WVHVP uses home visiting models that meet evidence-based standards established by the federal Maternal, Infant and Early Childhood Home Visiting Program. These programs include Healthy Families America, Parents as Teachers, and Early Head Start. Other programs offered include Maternal Infant Health Outreach Workers, Right From the Start (Medicaid perinatal case management home visitation program), Healthy Start/Helping Appalachian Parents & Infants Project, and Save the Children. All of the programs above use a home visiting model in which trained professionals visit families in their homes or at neutral locations and have the ability to screen for a variety of issues including IPV. The schedule for IPV screening in these programs varies, though all use the HITS (Hurt, Insult, Threaten, and Scream) tool to screen for IPV (Sherin, Sinacore, Li, Zitter, & Shakil, 1998). Referrals for IPV should be made when a respondent’s score on the four-item, 4- to 20-point scale is 10 or higher. In addition, HVs are encouraged to create a safety plan for clients to help them remain safe while in a violent relationship or if they are planning to leave or have left an abusive relationship.

The theory of planned behavior (TPB) evolved in the late 1970s and early 1980s from its predecessor, the theory of reasoned action (TRA; Ajzen, 1985; Fishbein, 1967). According to the TPB, a behavior is primarily predicted by Behavioral Intention, which is influenced by three main predictive constructs: Attitude Toward the Behavior (ATB), Subjective Norm (SN), and Perceived Behavioral Control (PBC; Ajzen, 2002b; Montaña, Phillips, Kasprzyk, & Greek, 2008). ATB is defined as an individual’s view toward a behavior; SN is an individual’s view of a behavior given his or her perception of his or her social ties; and PBC includes an individual’s assessment of his or her power and ability to carry out the behavior (Ajzen, 2002b; Montaña et al., 2008).

The TPB is a well-researched model of human behavior. It has been used in studies to predict a range of health behaviors including but not limited to eating habits, exercise behaviors, vaccination participation, and cancer screenings/mammography (Gerend & Shepherd, 2012; McEachan, Conner, Taylor, & Lawton, 2011; Roncancio et al., 2015). The TPB has also been used as a framework for a number of behavioral interventions targeting, for example, healthy eating, safe sexual behaviors, safe automobile driving, and food safety interventions (Elliott & Armitage, 2009; Kothe, Mullan, & Butow, 2012; Milton & Mullan, 2012; Montanaro & Bryan, 2014). Furthermore, both the TPB and TRA have been used for evaluation purposes (Calabro, Mackey, & Williams, 2002; Schoening, Greenwood, McNichols, Heermann, & Agrawal, 2004), including a study by Calabro et al. (2002) in which a survey was developed to assess constructs of intention and ATB and analyze changes among psychiatric hospital staff following a training on violence perpetrated by patients. With regard to IPV specifically, studies have shown that the TPB is predictive of IPV behaviors of male perpetrators (Kernsmith, 2005) and the intention of female victims to leave or stay in a violent relationship (Edwards, Gidycz, & Murphy, 2015). While these studies use the TPB to predict behaviors among perpetrators and victims of IPV, Schoening et al. (2004) applied the TPB to assess the changes in attitudes toward IPV following trainings for hospital nurses.

It is important to note that previous studies have demonstrated that although home visiting professionals are typically required to assess IPV among clients, they feel unprepared to do so, report low levels of confidence in addressing IPV with clients, and desire training to enhance IPV knowledge and assessment skills, including how to maintain a nonjudgmental attitude and to initiate conversations about IPV with clients (Bair-Merritt et al., 2010; Duggan et al., 2004; Eddy, Kilburn, Chang, Bullock, & Sharps, 2008; Jack et al., 2012; Jack, Ford-Gilboe, Davidov, & MacMillan, 2017; Jack, Jamieson, Wathen, & MacMillan, 2008; Sharps et al., 2016). HVs also require more information about how to promote safety planning behaviors among clients and encourage follow-through with referrals to IPV-related resources and community agencies (Jack et al., 2017; Tandon, Mercer, Saylor, & Duggan, 2008). In response, professional training opportunities have been developed with the goal of meeting HVs' needs related to IPV, but little work has been done to evaluate the effectiveness of those approaches. As a result, there is a clear need for evaluation research designed to measure the impact of professional development on HVs' readiness to implement evidence-based IPV-related services to their clients, specifically screening, safety planning, and making referrals. In accordance with the TPB, providing training that improves HVs' intentions to screen for IPV, make safety plans, and refer for IPV when warranted is likely to lead to behavior change among home visiting professionals, resulting in more clients being screened and referred for additional services. To date, however, the TPB has not been used to evaluate the impact of professional training on HVs' intentions toward these key IPV behaviors. In this study we used the TPB to evaluate the impact of a daylong IPV training for HVs in WV. We hypothesized that each of the three main concepts of TPB (ATB, SN, and PBC) would increase during the training, reflecting an improvement in the HVs' intention to screen for IPV, refer victims to professionals, and create safety plans for their clients.

Method

Sample and Participants

Participants in this study were attendees of a daylong IPV prevention training for HVs in WV provided by a professional trainer using the Futures Without Violence “Healthy Moms, Happy Babies” curriculum on “Domestic Violence, Reproductive Coercion and Children Exposed” (Chamberlain & Levenson, 2014), including PowerPoint slides, training videos, and interactive discussion. The purpose of the training was to familiarize, reinforce, and demonstrate evidence-based techniques for IPV screening, safety planning, and referring through lecture, video demonstrations, and interactive discussion. An IPV victim also spoke at each training to reinforce the importance of addressing IPV by HVs and some suggestions for how to do so from a victim’s perspective. Attendance at the training was required as professional development for all HVs in the state and funded by the WWHVP. In total, 125 HVs attended the training, representing 22 different home visiting agencies that implement at least one of six different home visiting models. The training was held at four different sites in April and May 2015. All attendees were recruited to participate in the study. Participants were given a packet at a registration table at the beginning of the training by a member of the evaluation team, including a cover letter, a consent form, and pre- and posttraining surveys in separate, sealed envelopes. At the start of the training, an evaluation team member reviewed the cover letter and asked for study participation, consent, and completion of the pretraining survey. The post survey was collected from participants at the end of the training. Participation in the survey was voluntary, and participants were not compensated. The West Virginia University Institutional Review Board reviewed and approved the study for the protection of human subjects (Protocol No. 1504668379).

Measures

Pre- and posttraining surveys were developed by the evaluation team and reviewed by key stakeholders at the WWHVP for face validity. Survey items were constructed using TPB item development procedures (Ajzen, 2002a) to assess the intention to perform three behaviors of interest: (a) IPV screening, (b) making referrals for IPV services, and (c) creating safety plans. The final survey included 11 items for each behavior of interest, including 3 items for ATB and 4 items each for SN and PBC. Multiple items were reversed scored. Once reversed, summary scores for each construct and the full instrument were calculated. Higher summary scores represent more positive ATB, SN, and PBC and total intention to perform each behavior.

Attitude Toward Behavior—We assessed attitudes toward each IPV behavior of interest (screening, referring, and safety planning) using a statement for the behavior scored on three 7-point semantic differential scales by the respondent using text anchors: *harmful* (1) to *beneficial* (7), *good* (1) to *bad* (7), pleasant (1) to *unpleasant* (7). For example, for IPV screening, the statement read “For my home visitation (HV) clients, me doing an assessment of their experiences of domestic violence is ...”

Subjective Norm—Subjective norm for IPV screening, referrals, and safety plans was assessed using four statements pertaining to (a) perceived general expectations, (b) perceived

supervisor expectations, (c) what most other HVs do, and (d) what other HVs that the respondent respects are most likely to do. This was followed by four statements scored on a 7-point semantic differential scale: *I should* (1) to *I should not* (7), *strongly disagree* (1) to *strongly agree* (7), *completely true* (1) to *completely false* (7), and *completely false* (1) to *completely true* (7).

Perceived Behavioral Control—Similar to SN, we assessed PBC to perform screening, conduct referrals, and create safety plans with four statements pertaining to (a) the possibility of doing the work, (b) the perceived ability to do the work, (c) perceived control over the work, and (d) whether it is up to the HV to do the work or not. This was followed by four statements scored on a 7-point semantic differential scale: *impossible* (1) to *possible* (7), *definitely true* (1) to *definitely false* (7), *complete control* (1) to *no control* (7), and *strongly disagree* (1) to *strongly agree* (7).

Analyses

Data were analyzed using two approaches. First we employed principal component analysis on each of the 11-question, behavior-specific measures in the questionnaire: screening, referrals, and safety planning. Items with factor loading of .40 and above were retained for the creation of the final scaled measure within each subcategory. As anticipated, this approach resulted in three behavior-specific scales that corresponded with the three core HV tasks related to IPV. These scales included one related to IPV screening (Screening, 7 items), one related to making IPV-related community referrals (Referrals, 8 items), and one related to developing a collaborative IPV safety plan with home visitation clients when necessary (Safety Planning, 8 items). We then used repeated measures analysis of variance on each of the three measures to test for within-subjects differences in mean scores pre- and posttraining.

Second, the Screening, Referral, and Safety Plan scales were each further divided into three TPB construct-specific subscales related to ATB, SN, and PBC. This step resulted in a total of nine subscales, with three subscales for each behavior-specific scale measure. For example, the Screening scale was divided into three TPB construct-specific subscales: Screening-ATB, Screening-SN, and Screening-PBC. We then used repeated measures analysis of variance to test for within-subjects mean differences pre- and posttraining within each behavior-specific subscale measure. We used Cronbach's alpha to select/omit items to be used in each analysis.

Results

Nearly all 125 attendees (96.0%, $n = 120$) of the trainings completed both the pre- and posttraining surveys. In line with overall demographics of HVs in WV, the vast majority of the attendees were female (95.8%, $n = 115$). The majority were full-time HVs (74.6%, $n = 85$) and college-educated (60.9%, $n = 73$). The respondents varied on age ($M = 41.8$ years, $SD = 10.3$) and years of experience ($M = 8.1$ years, $SD = 8.1$). Full demographic data from the survey respondents are presented in Table 1.

Table 2 outlines the results from analysis Approach 1, based on principal component analysis of intention to perform each of the three IPV behaviors of interest, as well as the distributional properties for the measures. Distributional properties are within acceptable range in all instances for pre- and posttraining assessments. Intention to perform the three IPV behaviors of interest was generally fairly high among the HVs in our study prior to the IPV training (average item scores of 4–5 on scale of 0–6). As hypothesized, and despite this potential ceiling effect, a significant mean difference was observed in the hypothesized direction for the intention to perform all three IPV behaviors of interest (i.e., within-subject analyses) using this statistical approach.

Table 3 includes the results from the analyses that were based on the TPB construct-specific subscales within each of the three behaviors of interest, including the measurement distributional properties. As shown, the majority of analyses on skew and kurtosis (30 of 36) are within the preferred range of ± 1.0 , and Cronbach's alpha ranges from .40 to .77 for all pre- and posttraining assessments. A significant mean difference was observed in the hypothesized direction in three of nine within-subject analyses using this approach to the data (Screening-PBC, Safety Planning-SN, and Safety Planning-PBC subscales), highlighting the impact of the training on improvements in HVs' belief in their own ability (PBC) to conduct screenings and perform safety plans and their belief that important others (SN) conducted and/or supported conducting safety plans.

Discussion

The results of this work highlight the positive impact the IPV training had on HVs' intentions to perform three key behaviors that could lead to increased intervention and reduced severity of IPV among clients. Specifically, the IPV training had a positive impact on intention to perform the three behaviors of interest: IPV screening, safety planning, and making referrals. The training included demonstration videos of IPV screening and safety planning, and provided the opportunity to openly share techniques and work through potential barriers. In addition, concerns about making referrals and solutions were discussed with the IPV trainer and WVHVP staff in attendance (e.g., lack of agencies trained to work with male victims of IPV). Table 2 shows that the greatest impact of the IPV training was seen in the intention to conduct IPV screenings. This is a promising finding because the first step to addressing IPV is determining whether a client is experiencing IPV. Removing barriers related to conducting IPV screenings represents a critical first step to helping HVs become comfortable addressing a topic they may perceive as difficult to initiate or a potential negative impact on client rapport. The critical importance of discussing IPV was also stressed by the IPV victims who spoke at each training, who also highlighted their feelings of seclusion and lack of support—all of which HVs are in a unique position to overcome when they visit the home and screen for IPV.

Our more in-depth analysis of each IPV behavior using the TPB construct-specific subscales presented mixed results. Pre- to posttraining changes in intention to screen for IPV were largely a result of significant changes in Screening-PBC. That is, HVs felt significantly more capable of successfully conducting IPV screening after taking part in the daylong training. No single TPB construct changed significantly for making IPV referrals, though each

construct changed in the expected direction. Both Safety Planning-SN and Safety Planning-PBC for safety planning increased significantly after the training. This finding suggests that HVs' perceptions of their colleagues and supervisors improved as did the HVs' perception of their own ability to successfully develop a safety plan.

These findings are important as they provide preliminary evidence supporting the effectiveness of using professional development to increase the intention of HVs to enact important IPV-specific behaviors (Jack et al., 2012; Sharps et al., 2016). This represents a critical step in evaluating the feasibility of using home visiting programs as a setting for identifying and reducing the severity of IPV, especially considering the current trend of home visiting programs to incorporate goals and activities related to IPV (Bair-Merritt et al., 2010; Jack et al., 2012; Shepard et al., 1999; U.S. Department of Health & Human Services, 2016). Considering that preliminary studies suggest home visiting programs may be able to reduce rates of IPV-related harm (Bair-Merritt et al., 2010; Sharps et al., 2016), identifying ways to reduce barriers to incorporating IPV activities in their programs is imperative. This study provides critical preliminary evidence supporting professional development as a means of reducing these barriers; increasing levels of HVs' intentions to perform IPV screening, referrals, and safety planning; and increasing the likelihood of successfully incorporating IPV into home visiting programs.

Limitations

Some limitations are worth noting. First, the evaluation survey data were collected during a formal training setting under conditions in which risk of social desirability bias was elevated. We are therefore unable to fully control for potential bias in the data due to the nature of the data collection and setting. Second, although our survey questions were created within a solid theoretical framework (TPB), the instrument was created specifically for this purpose and had limited reliability and validity testing. Despite acceptable psychometric properties, we recommend replicating its use within other IPV trainings. Third, our participants had a somewhat limited period of time to complete the surveys, especially the post survey at the end of the daylong training, which may have further encouraged socially desirable responses. Fourth, this preliminary study provided evidence specific to one group of home visiting professionals in one geographic area during a limited period of time. We recommend replicating this study among a wider range of HVs in a variety of locations and providing additional IPV-specific training. Finally, this study used a self-report pre-post design to assess *intentions to perform* challenging professional tasks. A logical next step is for researchers to use a study design in which data are collected at multiple time points and linked to rates of *actual HV behavior* related to IPV screening, referral, and safety planning.

Strengths and Implications for Theory, Policy, and/or Practice

In spite of limitations, the results of this study provide important preliminary evidence supporting the effectiveness of professional development as a means of increasing HVs' intentions to conduct activities related to IPV. Our study is a unique addition to the expansive TPB literature and highlight the increasing intentions of HVs to conduct IPV screenings, referrals, and safety planning as a result of a daylong training, which should lead to subsequent increases in these behaviors. Further study is necessary to examine the critical

link between intentions and actual activities in HVs' day-to-day practice with at-risk clients in addressing the critical issue of IPV.

Acknowledgments

This project was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health & Human Services (HHS) under Grant No. D89MC23160 and title "Affordable Care Act (ACA) Maternal, Infant and Early Childhood Home Visiting Program Competitive Grant Program" for the amount of \$2,242,401. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by, HRSA, HHS, or the U.S. Government. Additionally, for Dr. Davidov, research reported in this article was supported by the National Institute of General Medical Sciences of the National Institutes of Health under Award NO. U54GM104942.

References

- Ajzen, I. From intentions to actions: A theory of planned behavior. In: Kuhl, J., Beckmann, J., editors. *Action control: From cognition to behavior*. Berlin, Germany: Springer Berlin Heidelberg; 1985. p. 11-39.
- Ajzen, I. Constructing a TPB questionnaire: Conceptual and methodological considerations. 2002a. Retrieved from <http://people.umass.edu/aizen/tpb.html>
- Ajzen I. Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology*. 2002b; 32:665–683.
- Bair-Merritt MH, Jennings JM, Chen R, Burrell L, McFarlane E, Fuddy L, Duggan AK. Reducing maternal intimate partner violence after the birth of a child: A randomized controlled trial of the Hawaii Healthy Start Home Visitation Program. *Archives of Pediatrics & Adolescent Medicine*. 2010; 164:16–23. [PubMed: 20048237]
- Bair-Merritt MH, Lewis-O'Connor A, Goel S, Amato P, Ismailji T, Jelley M, ... Cronholm P. Primary care-based interventions for intimate partner violence: A systematic review. *American Journal of Preventive Medicine*. 2014; 46:188–194. [PubMed: 24439354]
- Black, MC., Basile, KC., Breiding, MJ., Smith, SG., Walters, ML., Merrick, MT., ... Stevens, MR. National Intimate Partner and Sexual Violence Survey (NISVS): 2010 Summary report. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2011.
- Calabro K, Mackey TA, Williams S. Evaluation of training designed to prevent and manage patient violence. *Issues in Mental Health Nursing*. 2002; 23:3–15. [PubMed: 11887608]
- Centers for Disease Control and Prevention, Injury Prevention & Control, Division of Violence Prevention. Intimate partner violence. n.d. Retrieved October 11, 2016, from <https://www.cdc.gov/violenceprevention/intimatepartnerviolence/>
- Chamberlain, L., Levenson, R., editors. *Healthy Moms, Happy Babies: A train the trainers curriculum on domestic violence, reproductive coercion and children exposed*. 2. San Francisco, CA: Futures Without Violence; 2014. Retrieved from https://www.futureswithoutviolence.org/userfiles/file/HealthCare/HV_Trainers_Guide.pdf
- Duggan A, Fuddy L, Burrell L, Higman SM, McFarlane E, Windham A, Sia C. Randomized trial of a statewide home visiting program to prevent child abuse: Impact in reducing parental risk factors. *Child Abuse & Neglect*. 2004; 28:623–643. DOI: 10.1016/j.chiabu.2003.08.008 [PubMed: 15193852]
- Eddy T, Kilburn E, Chang C, Bullock L, Sharps P. Facilitators and barriers for implementing home visit interventions to address intimate partner violence: Town and gown partnerships. *Nursing Clinics of North America*. 2008; 43:419–435. DOI: 10.1016/j.cnur.2008.04.005 [PubMed: 18674673]
- Edwards KM, Gidycz CA, Murphy MJ. Leaving an abusive dating relationship: A prospective analysis of the investment model and theory of planned behavior. *Journal of Interpersonal Violence*. 2015; 30:2908–2927. [PubMed: 25349014]

- Elliott MA, Armitage CJ. Promoting drivers' compliance with speed limits: Testing an intervention based on the theory of planned behaviour. *British Journal of Psychology*. 2009; 100:111–132. [PubMed: 18662491]
- Fishbein, M. Attitudes and the prediction of behavior. In: Fishbein, M., editor. *Readings in attitude theory and measurement*. New York, NY: Wiley; 1967. p. 477–492.
- Gallup-Black A. Twenty years of rural and urban trends in family and intimate partner homicide: Does place matter? *Homicide Studies*. 2005; 9:149–173. DOI: 10.1177/1088767904274158
- Gerend MA, Shepherd JE. Predicting human papillomavirus vaccine uptake in young adult women: Comparing the health belief model and theory of planned behavior. *Annals of Behavioral Medicine*. 2012; 44:171–180. [PubMed: 22547155]
- Institute of Medicine. *Clinical preventive services for women: Closing the gaps*. Washington, D.C: National Academies Press; 2011.
- Jack SM, Ford-Gilboe M, Davidov D, MacMillan HL. Identification and assessment of intimate partner violence in nurse home visitation. *Journal of Clinical Nursing*. 2017; 26:2215–2228. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/jocn.13392/full.doi:10.1111/jocn.13392>. [PubMed: 27219286]
- Jack SM, Ford-Gilboe M, Wathen CN, Davidov DM, McNaughton DB, Coben JH. ... NFP IPV Research Team. Development of a nurse home visitation intervention for intimate partner violence. *BMC Health Services Research*. 2012; 12(50) Retrieved from <http://www.biomedcentral.com/1472-6963/12/50>.
- Jack SM, Jamieson E, Wathen CN, MacMillan HL. The feasibility of screening for intimate partner violence during postpartum home visits. *Canadian Journal of Nursing Research*. 2008; 40:150–170. [PubMed: 18714904]
- Kernsmith P. Treating perpetrators of domestic violence: Gender differences in the applicability of the theory of planned behavior. *Sex Roles*. 2005; 52:757–770. DOI: 10.1007/s11199-005-4197-5
- Klevens J, Kee R, Trick W, Garcia D, Angulo FR, Jones R, Sadowski LS. Effect of screening for partner violence on women's quality of life: A randomized controlled trial. *Journal of the American Medical Association*. 2012; 308:681–689. DOI: 10.1001/jama.2012.6434 [PubMed: 22893165]
- Kothe EJ, Mullan BA, Butow P. Promoting fruit and vegetable consumption. Testing an intervention based on the theory of planned behaviour. *Appetite*. 2012; 58:997–1004. DOI: 10.1016/j.appet.2012.02.012 [PubMed: 22349778]
- Logan TK, Walker R, Cole J, Ratliff S, Leukefeld C. Qualitative differences among rural and urban intimate violence victimization experiences and consequences: A pilot study. *Journal of Family Violence*. 2003; 18:83–92. DOI: 10.1023/A:1022837114205
- MacMillan HL, Wathen CN, Jamieson E, Boyle MH, Shannon HS, Ford-Gilboe M, ... McNutt LA. Screening for intimate partner violence in health care settings: A randomized trial. *Journal of the American Medical Association*. 2009; 302:493–501. DOI: 10.1001/jama.2009.1089 [PubMed: 19654384]
- McEachan RRC, Conner M, Taylor NJ, Lawton RJ. Prospective prediction of health-related behaviours with the theory of planned behaviour: A meta-analysis. *Health Psychology Review*. 2011; 5:97–144.
- Milton AC, Mullan BA. An application of the theory of planned behavior: A randomized controlled food safety pilot intervention for young adults. *Health Psychology*. 2012; 31:250–259. [PubMed: 22059618]
- Montanaro EA, Bryan AD. Comparing theory-based condom interventions: Health belief model versus theory of planned behavior. *Health Psychology*. 2014; 33:1251–1260. [PubMed: 23977877]
- Montaño DE, Phillips WR, Kasprzyk D, Greek A. STD/HIV prevention practices among primary care clinicians: Risk assessment, prevention counseling, and testing. *Sexually Transmitted Diseases*. 2008; 35:154–166. DOI: 10.1097/OLQ.0b013e3181574d97 [PubMed: 18007273]
- Nelson HD, Bougatsos C, Blazina I. Screening women for intimate partner violence: A systematic review to update the U.S. Preventive Services Task Force recommendation. *Annals of Internal Medicine*. 2012; 156:796–808. DOI: 10.7326/0003-4819-156-11-201206050-00447 [PubMed: 22565034]

- O'Campo P, Kirst M, Tsamis C, Chambers C, Ahmad F. Implementing successful intimate partner violence screening programs in health care settings: Evidence generated from a realist-informed systematic review. *Social Science & Medicine*. 2011; 72:855–866. DOI: 10.1016/j.socscimed.2010.12.019 [PubMed: 21330026]
- Peek-Asa C, Wallis A, Harland K, Beyer K, Dickey P, Saftlas A. Rural disparity in domestic violence prevalence and access to resources. *Journal of Women's Health*. 2011; 20:1743–1749. DOI: 10.1089/jwh.2011.2891
- Roncancio AM, Ward KK, Sanchez IA, Cano MA, Byrd TL, Vernon SW, ... Fernandez ME. Using the theory of planned behavior to understand cervical cancer screening among Latinas. *Health Education & Behavior*. 2015; 42:621–626. [PubMed: 25712240]
- Schoening AM, Greenwood JL, McNichols JA, Heermann JA, Agrawal S. Effect of an intimate partner violence educational program on the attitudes of nurses. *Journal of Obstetric, Gynecologic & Neonatal Nursing*. 2004; 33:572–579.
- Sharps PW, Bullock LF, Campbell JC, Alhusen JL, Ghazarian SR, Bhandari SS, Schminkey DL. Domestic violence enhanced perinatal home visits: The DOVE randomized clinical trial. *Journal of Women's Health*. 2016; 25:1129–1138. Retrieved from <http://online.liebertpub.com/doi/abs/10.1089/jwh.2015.5547>.doi:10.1089/jwh.2015.5547.
- Shepard MF, Elliott BA, Falk DR, Regal RR. Public health nurses' responses to domestic violence: A report from the Enhanced Domestic Abuse Intervention Project. *Public Health Nursing (Boston, Mass)*. 1999; 16:359–366.
- Sherin KM, Sinacore JM, Li XQ, Zitter RE, Shakil A. HITS: A short domestic violence screening tool for use in a family practice setting. *Family Medicine*. 1998; 30:508–512. [PubMed: 9669164]
- Tandon SD, Mercer CD, Saylor EL, Duggan AK. Paraprofessional home visitors' perspectives on addressing poor mental health, substance abuse, and domestic violence: A qualitative study. *Early Childhood Research Quarterly*. 2008; 23:419–428. DOI: 10.1016/j.ecresq.2008.02.002
- Taft A, O'Doherty L, Hegarty K, Ramsay J, Davidson L, Feder G. Screening women for intimate partner violence in healthcare settings. *Cochrane Database of Systematic Reviews*. 2013; 2013(4):CD007007.doi: 10.1002/14651858.CD007007.pub2
- Truman, JL., Morgan, RE. Nonfatal domestic violence, 2003–20012. 2014. (NCJ 244697). Retrieved from <http://www.bjs.gov/index.cfm?ty=pbdetail&iid=4985>
- U.S. Department of Health & Human Services. Health care providers' role in screening and counseling for interpersonal and domestic violence. Washington, DC: Office on Women's Health; 2013.
- U.S. Department of Health & Human Services, Health Resources and Services Administration. Demonstrating improvement in the Maternal, Infant, and Early Childhood Home Visiting Program: A report to Congress. 2016. Retrieved from <http://mchb.hrsa.gov/sites/default/files/mchb/MaternalChildHealthInitiatives/HomeVisiting/pdf/reportcongress-homevisiting.pdf>
- Wathen CN, MacMillan HL. Interventions for violence against women: Scientific review. *JAMA*. 2003; 289:589–600. [PubMed: 12578492]
- West Virginia State Police. Crime in West Virginia 2012. 2012. Retrieved from <http://www.wvsp.gov/about/Documents/CrimeStatistics/2012wvcrimes.pdf>
- World Health Organization. Global and regional estimates of violence against women: Prevalence and health effects of intimate partner violence and non-partner sexual violence. Geneva, Switzerland: Author; 2013.

Table 1

Demographic Characteristics of 120 Home Visitors Who Attended a Daylong Intimate Partner Violence Training, West Virginia, 2015

<i>Characteristic</i>	n	M ± SD, or n (%)
Age, years	116	41.8 (±10.3)
Experience as a home visitor, years	102	8.1 (±8.1)
Sex	120	
Male		5 (4.2%)
Female		115 (95.8%)
Highest level of formal education	120	
High school graduate		7 (5.8%)
Some college		36 (30.0%)
Undergraduate college graduate		56 (46.7%)
College graduate degree		17 (14.2%)
Other		4 (3.3%)
Employment status as home visitor	114	
Full-time		85 (74.6%)
Part-time		29 (25.4%)

NOTE: Sample sizes vary due to missing data.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 2
 Changes in Behavioral Intention to Conduct Screenings, Make Referrals, and Develop Safety Plans for Intimate Partner Violence Among Home Visitors Undergoing a Daylong Training, West Virginia, 2014

Measure	No. of items	Range	Skew		Kurtosis		α		M (SD)		Difference
			Pre	Post	Pre	Post	Pre	Post	Pre	Post	
Screenings	7	0-42	-0.28	-0.70	-0.58	-0.44	.71	.60	31.14 (6.01)	35.38 (4.41)	$F(1, 77) = 46.94, p = .001$
Referrals	8	0-48	-0.39	-0.78	-0.43	-0.01	.65	.67	37.85 (6.11)	40.27 (5.57)	$F(1, 77) = 13.38, p = .001$
Safety plans	8	0-48	-0.85	-1.22	-0.16	0.93	.71	.66	39.83 (6.71)	41.28 (5.86)	$F(1, 74) = 4.20, p = .044$

Table 3
 Changes in Attitude Toward Behavior (ATB), Subjective Norm (SN), and Perceived Behavioral Control (PBC) to Conduct Screenings, Make Referrals, and Develop Safety Plans for Intimate Partner Violence Among Home Visitors Undergoing a Daylong Training, West Virginia, 2014

Measure	No. of items	Range	Skew		Kurtosis		α		M (SD)		Difference
			Pre	Post	Pre	Post	Pre	Post	Pre	Post	
Screenings											
ATB	3	0-18	-0.10	-0.36	-0.43	-0.05	.62	.51	12.46 (2.54)	12.86 (2.09)	$F(1, 79) = 4.21, p = .141$
SN	4	0-24	-0.61	-0.52	-0.34	-0.64	.48	.40	14.44 (3.09)	14.69 (2.99)	$F(1, 100) = 0.73, p = .396$
PBC	3	0-18	-0.20	-0.52	-1.05	-0.64	.66	.45	13.30 (3.28)	14.64 (2.91)	$F(1, 102) = 18.01, p = .001$
Referrals											
ATB	3	0-18	0.23	-0.18	-0.31	-0.56	.63	.73	12.43 (2.28)	12.75 (1.95)	$F(1, 80) = 1.44, p = .234$
SN	4	0-24	-0.65	0.45	-0.44	-0.84	.49	.40	18.56 (4.50)	19.20 (3.95)	$F(1, 99) = 2.41, p = .124$
PBC	3	0-18	-0.93	-0.10	-1.20	0.59	.63	.68	14.76 (3.13)	15.20 (3.10)	$F(1, 101) = 2.16, p = .145$
Safety plans											
ATB	2	0-12	-1.44	-2.15	0.83	3.85	.77	.46	10.77 (2.00)	11.10 (1.83)	$F(1, 76) = 1.58, p = .212$
SN	4	0-24	-0.44	-0.66	-0.55	-0.68	.49	.47	19.12 (4.14)	19.96 (3.86)	$F(1, 96) = 4.78, p = .031$
PBC	3	0-18	-0.66	-1.35	-0.47	1.17	.55	.76	14.13 (3.29)	14.88 (3.31)	$F(1, 98) = 5.31, p = .023$