The Impact of Disclosure of Intimate Partner Violence on Friends

BY

RANNVEIG SIGURVINSDDOTTIR

B.S., University of Iceland, 2011

THESIS

Submitted as partial fulfillment of the requirements
for the degree of Master of Arts in Psychology
in the Graduate College of the
University of Illinois at Chicago, 2013

Chicago, Illinois

Defense Committee:

Stephanie Riger, Chair and Advisor

Sarah Ullman, Criminology Law and Justice

Paul Schewe, Criminology, Law and Justice

ACKNOWLEDGEMENTS

I would like to thank my thesis committee, Stephanie Riger, Sarah Ullman and Paul Schewe, for their help and support with this project. I would also like to especially acknowledge Stephanie and Sarah for their unlimited support and guidance they have provided me with during my studies at UIC.

RS

TABLE OF CONTENTS

<u>CHAPTER</u>	<u>PAGE</u>
I. INTRODUCTION	1
A. Social reactions.....	2
B. Impact on Friends.....	2
C. Friends of IPV Survivors	3
D. Current Study	4
II. METHOD	7
A. Participants	7
B. Measures	8
C. Procedure	11
D. Analysis	12
III. RESULTS	13
A. Descriptive Information of Impact on Friends-IPV measure.....	13
B. Relationship quality.....	13
C. Gender.....	14
D. Victimization.....	14
E. Psychological symptoms.....	14
F. Factor analysis.....	16
G. Factor scores predicting psychological symptoms.....	18
H. Mediated regression.....	18
I. Moderated regression.....	19
IV. DISCUSSION	20
CITED LITERATURE.....	26
INSTITUTIONAL REVIEW BOARD APPROVAL	42
VITA.....	45

LIST OF TABLES

<u>TABLE</u>	<u>PAGE</u>
I. DEMOGRAPHICS FOR PARTICIPANTS INCLUDED AND EXCLUDED FROM ANALYSIS AND DEMOGRAPHICS FOR FRIENDS AND NON-FRIENDS	33
II. NUMBER AND PERCENTAGES OF PARTICIPANTS WHO AGREED OR STRONGLY AGREED WITH EACH ITEM ON THE IMPACT ON FRIENDS SCALE	34
III. VICTIMIZATION DIFFERENCES ON THE IMPACT ON FRIENDS- IPV MEASURE	35
IV. CORRELATION BETWEEN IOF ITEMS AND PSYCHOLOGICAL SYMPTOMS	36
V. PSYCHOLOGICAL SYMPTOMS BY VICTIMIZATION	37
VI. STANDARDIZED FACTOR LOADINGS OF ITEMS AND HOW MUCH VARIANCE OF EACH ITEM THE FACTOR SOLUTION EXPLAINS	38
VII. STANDARDIZED FACTOR LOADINGS OF ITEMS	39
VIII. DESCRIPTIVE INFORMATION FOR IMPACT ON FRIENDS SUBSCALES	40
IX. CORRELATION BETWEEN FACTORS	41

LIST OF ABBREVIATIONS

IPV	Intimate partner violence
SA	Sexual assault
IOF	Impact on friends
PTSD	Post-traumatic stress disorder

SUMMARY

Intimate partner violence (IPV) affects others as well as the survivor (Riger, Raja & Camacho, 2002), but we do not have measures to assess that impact. The Impact on Friends measure was developed to understand the impact of disclosure of sexual assault (SA) on friends of survivors (Ahrens & Campbell, 2000; Banyard et al., 2010). In this study, the Impact on Friends measure was modified to apply to IPV and administered to an online sample. Exploratory factor analysis revealed four factors: Emotional Distress, Validation, Confusion and IPV. The first three factors are similar to the scale for friends of SA survivors (Banyard et al., 2010); a fourth factor refers specifically to IPV. The Impact on Friends-IPV measure has adequate reliability. One of its factors, Emotional Distress, predicts increased depression and post-traumatic distress disorder symptoms of friends. These results suggest that although there is overlap in the experience of hearing about assault or impact of that for both friends of IPV and SA survivors, disclosure of IPV has an additional, unique impact on friends.

INTRODUCTION

Social support is important to survivors of intimate partner violence (IPV). In addition to help from professionals, such as doctors and shelter workers, survivors may seek help from informal supporters such as friends and family. They may help survivors leave abusive relationships or cope with IPV (El-Bassel, Gilbert, Rajah, Folleno & Frye, 2001; Krishnan, Hilbert & VanLeeuwen, 2001; Rose, Campbell & Kub, 2000; Tan, Basta, Sullivan & Davidson II, 1995; Thompson et al., 2000). Two-thirds of IPV survivors in the United States seek some form of informal support (Goodman, Dutton, Weinfurt & Cook, 2003; Levendosky et al., 2004; Rose et al., 2000) and any form of social support is associated with decreased mental health problems (Campbell, Sullivan & Davidson II, 1995; Carlson, McNutt, Choi & Rose, 2002; Coker et al., 2002; Coker, Watkins, Smith and Brandt, 2003; El-Bassel et al., 2001; Tan et al., 1995; Thompson et al., 2000). Friends' reactions are especially salient to survivors, and positive reactions from friends are associated with better recovery (Campbell et al., 2001; Filipas & Ullman, 2001; Ullman, 1996). Many survivors believe that informal support is more likely than support from formal agencies to end IPV because friends and family know the situation and the people involved (Budde & Schene, 2004; Mancini, Nelson, Bowen & Martin, 2006).

Despite the importance of informal support to survivors, little is known about how disclosure of IPV impacts others. Preliminary studies suggest a radiating impact of IPV on friends, family, neighbors and coworkers of the survivor (Riger et al., 2002). Sexual assault (SA) research suggests that the survivors' friends and family may experience distress and confusion about how to react to survivors (Ahrens & Campbell, 2000). The Impact on Friends measure was developed to assess how disclosure of SA impacts friends of survivors (Ahrens & Campbell, 2000; Banyard et al., 2010). We have no measure to assess the impact of disclosure of IPV on

friends of survivors. In this study, the Impact on Friends measure was modified to understand how disclosure of IPV impacts friends, as well as to see whether the impact of IPV is similar to that of SA.

Social reactions

The term “social support” implies a positive impact, but others may not respond positively to a survivor (Ullman, 1999). Therefore, social support may be reconceptualized as social reactions. In SA research, positive reactions include emotional support and giving tangible aid, such as practical assistance or information. Negative reactions include blaming the survivor, trying to distract the survivor, treating the survivor differently than before, trying to control the survivor and becoming so distressed that the survivor feels guilty for disclosing violence (Ullman, 2000). Negative reactions from others have a bigger impact on health than positive reactions (Campbell, Ahrens, Sefl, Wasco & Barnes, 2001) and are connected with poorer psychological and physical health of survivors as well as delayed recovery from SA (Ullman, 1996; Ullman & Siegel, 1995). Less research exists on social reactions to IPV but preliminary studies suggest a detrimental effect of negative reactions and a limited impact of positive reactions on survivors (Goodkind, Gillum, Bybee & Sullivan, 2003).

Impact on Friends

Little is known about how violence impacts those to whom survivors disclose violence. IPV may negatively affect friends, family, neighbors and coworkers of the survivor. For example, family members and friends may experience violence themselves from the perpetrator (Riger et al., 2002). This may explain the reluctance of some survivors to seek help and why others may choose to distance themselves from the survivor (Goodman et al., 2003; Riger et al.,

2002). Informal supporters are more likely to react negatively to survivors when the supporters have been physically threatened by the abuse (Goodman et al., 2003).

The impact of disclosure of SA depends on relationship to the survivor. For example, family members and romantic partners of survivors report negative emotions and interpersonal problems after disclosure (Ahrens & Campbell, 2000; Davis & Brickman, 1996). Also, friends, family members and romantic partners may be unsure of how to react to survivors (Ahrens & Campbell, 2000). Friends, however, show fewer signs of distress and confusion than family members, though they may report shock, anger and wanting revenge against the perpetrator. Friends also show empathy and are less likely to blame survivors (Ahrens & Campbell, 2000). Friends report feeling validated by helping the survivor, with two-thirds of a college sample reporting that they had provided good support to a sexually assaulted friend (Banyard et al., 2010). Gender also plays a role; men are less certain of how to talk to the survivor and provide help than women (Ahrens & Campbell, 2000; Banyard et al., 2010) but female friends report more distress (Banyard et al., 2010). Male students are also more likely to blame the survivor than female college students (Ahrens & Campbell, 2000). Friends' own victimization history also has an impact on friends. For example, friends who have been victimized themselves report more emotional distress (Banyard et al., 2010), blame victims less, and believe that violence has a greater impact on the survivor than friends who have no victimization history (Ahrens & Campbell, 2000). Friends are therefore impacted by violence, but less negatively than family members or romantic partners.

Friends of IPV survivors

Little research exists on friends of IPV survivors. One qualitative study examined how IPV impacted others (two thirds of participants were friends of survivors) (Latta & Goodman,

2011). Salient aspects of that experience were the importance of closeness with the survivor and whether friends felt responsible to intervene. Furthermore, friends were often disappointed that the survivor did not leave the relationship or listen to advice. Friends also felt torn between trying to limit the impact of violence on their lives and feeling guilty about not helping the survivor enough. Consistent with studies of SA survivors, participants reported distress and confusion in how to help or engage with the survivor (Latta & Goodman, 2011). This qualitative work therefore suggests that although there is important overlap in the experience of IPV and SA friends, such as distress and confusion, IPV may uniquely impact friends, for example by making them feel responsible to intervene.

Current study

Until now, no quantitative studies have examined how IPV impacts friends of survivors. Because IPV and SA have certain overlapping characteristics, SA studies can inform this research. For example, both IPV and SA have mostly male perpetrators and female survivors. In addition, survivors of both types of violence may experience stigma and shame following victimization and take a long time to recover. Also, friends of IPV and SA survivors report a similar impact of violence, such as confusion and distress (Ahrens & Campbell, 2000; Latta & Goodman, 2011).

To understand how disclosure of sexual assault impacts friends of survivors, Ahrens and Campbell (2000) used victimization perspective theory to develop a measure called Impact on Friends. According to this theory, friends believe that they should help the survivor deal with their unwanted sexual experience. If friends feel unsuccessful in that role, they often feel frustrated and helpless (Ahrens & Campbell, 2000). The Impact on Friends measure was shortened and further developed by Banyard et al. (2010) and administered to a sample of

college students. They found three dimensions: Ineffectiveness/Confusion, Emotional Distress and Validation. Both Banyard et al. (2010) and Ahrens & Campbell (2000) studied friends of SA survivors. In this study, I modify the Impact on Friends measure with the qualitative information from the study of friends of IPV and add four items specific to IPV (Latta and Goodman, 2011). The purpose is to develop a measure appropriate for friends of IPV survivors: to examine whether IPV and SA have a similar impact on friends; and to assess how disclosure of IPV affects the relationship between survivor and friend. I also examine whether participant gender and participant victimization history moderate impact on friends.

Because IPV and SA share certain characteristics, I expect a similar factor structure to emerge for the Impact on Friends-IPV as in the Impact on Friends measure for SA (Banyard et al. (2010). However, I also expect the four IPV items to form their own factor, since they address concerns that are specific to IPV, not SA. I also expect relationship quality to remain similar before and after the disclosure, as was the case for Ahrens and Campbell (2000). I expect gender to moderate results such that women will report more Emotional Distress and Validation, but men to report more Ineffectiveness/Confusion, as in Banyard et al. (2010). I also expect victimization to moderate impact, such that victimized participants will report more Emotional Distress than non-victimized participants, as in Banyard et al. (2010).

Finally, to establish predictive validity of the measure and more precisely map the impact of a friend disclosing IPV, I measure psychological symptoms of the friend. The three variables measured are depression symptoms, post-traumatic stress disorder (PTSD) symptoms and problem drinking. All of these problems are common in survivors of violence (Golding, 1999; Nemeroff et al., 2006; Plichta, 2004; Temple, Weston, Stuart & Marshall, 2008; White & Chen, 2002), so if violence does have a radiating impact, we may see similar problems in friends. Also,

friends of survivors may use alcohol to cope with their distress (Kilpatrick et al., 2007). Because Emotional Distress and Ineffectiveness/Confusion are both negative impact factors, I expect them to predict increased psychological symptoms. Also, because Validation indicates positive impact, I expect that factor to predict decreased psychological symptoms.

METHOD

Participants

Participants were recruited from Amazon Mechanical Turk (Mturk), an online survey service (Buhrmester, Kwang & Gosling, 2011). Members from all over the world complete tasks for money, such as responding to questionnaires or categorizing materials that are posted on the site. Collecting data in this way is common in social sciences, especially Social Psychology. The benefits to collecting data through Mturk are that data can be collected fairly quickly and inexpensively. Buhrmester, Kwang & Gosling (2011) found that Mturk users are quite similar to the general population sample of internet users and significantly more diverse than college samples. They also found that reliable data can be gathered quickly.

Table 1 shows demographics of participants. 951 participants were originally recruited, and 382 (40.17%) excluded from analysis. Most of these participants were excluded because they did not correctly answer quality control items. Online surveys often incorporate quality controls, where an item will simply state: “To monitor data quality, please select ‘Strongly agree’ for this question.” Those that do not choose the correct option may not be reading the survey carefully or paying enough attention for the data to be of high quality. In this study, two such items were incorporated and those that did not answer correctly were excluded. Other criteria for exclusion were not giving information about whether a friend has disclosed to them, not providing information about whether they were survivors themselves and not consenting to be included in the survey. Although 40% seems like a high number, excluding such large portions of the sample are common in online data collection (Goodman, Cryder & Cheema, 2012; Oppenheimer, Meyvis & Davidenko, 2009).

As seen in Table 1, 569 participants were used for analysis: 326 were male, 242 were female and 1 did not provide information on gender. Age ranged from 18 to 75 years old ($M = 29.82$, $SD = 9.20$), while 119 self-identified as White, 15 as Black, 8 as Hispanic, 396 as Asian, 3 as Pacific Islanders or Native Hawaiian, 5 as Alaska Native and 31 as other. Participants included 402 from India, 123 from the United States and 44 from a variety of other countries.

All participants answered questions about demographics and psychological symptoms. Participants in the Friends group (those who had a friend who had told them about IPV, $N = 274$) also answered questions about their relationship quality and the Impact on Friends-IPV measure. Participants in the Non-Friends group (those who did not have a friend who told them about IPV, $N = 295$) acted as a comparison group. Seventy-eight people in the Friends group and 18 people in the Non-Friends group were survivors of IPV themselves.

A comparison of included and excluded participants showed that excluded participants were significantly older, more likely to identify as Asian and were more likely to report being in India than included participants (although the number of Asians and Indians was still very high in the included group). Excluded participants were also more likely to have had their own history of victimization than included ones. Participants in the Friend and Non-Friend groups were also compared, which showed very similar differences to the previous comparison, except Non-Friend were more likely to racially identify as 'Other.'

Measures

Impact on Friends-IPV. The Impact on Friends scale (Banyard et al., 2010) was modified for IPV and administered to Friends. The three subscales identified by Banyard et al. (2010) are Validation, Ineffectiveness/confusion and Emotional Distress. In addition to these, I wrote 4 new items which are specific to IPV, the first was: "I feel angry at the perpetrator,"

which was included because friends reported sometimes having to engage with the perpetrator and feeling angry (Latta & Goodman, 2011). Friends of SA survivors have also reported anger at the perpetrator (Ahrens & Campbell, 2000). The second new item was: “I felt responsible to intervene,” as previous research shows that IPV may be a process that occurs over time and therefore it is possible to intervene in the violence (see Latta & Goodman, 2011). The last two items were: “I was disappointed because my friend did not listen to me” and “I was disappointed that my friend put up with the violence,” both of which were prominent among participants in the study by Latta and Goodman (2011). This item pool was submitted to a group of experts selected because of their experience with conducting research on violence who agreed that they should be included in the measure.

The reliability of the IOF measure for SA is 0.87, but no data were presented on validity (Banyard et al., 2010). To assess predictive validity of the IOF-IPV, I tested whether those who report significant impact of the disclosure on their lives are also more likely to experience various psychological adjustment problems. Similarly, a relationship between positive impact and improved psychological adjustment would also indicate predictive validity of the measure. Because there is no other measure on this subject, measuring convergent validity is not possible.

To assess psychological symptoms, the following measures were administered:

Post-traumatic stress disorder. The short version of the post-traumatic screening scale consists of 7 items that ask about specific symptoms of PTSD. This measure has adequate reliability and validity both for clinical samples as well as the general population (Bohnert & Breslau, 2011).

Depression. The Center for Epidemiologic Studies Depression Scale (CESD-10; Andresen, Malmgren, Carter & Patrick, 1994) was used to screen for depression symptoms. The

measure consists of 7 items with a four point scale reflecting how often they experience the symptoms described. This is a shortened version of a 20 item CES-D instrument, which has good internal consistency in the general population (Cronbach's $\alpha=0.85$) (Devins et al., 1984). This measure correlates highly with other measures of depression, such as the Beck Depression Inventory (Beck et al., 1961; Santor et al., 1995).

Problem drinking. The TWEAK (Russell, 1984) measures problem drinking. Each letter in the name corresponds to a certain type of symptom: tolerance, worry, eye opener, amnesia and cutting down on drinking. The measure consists of 6 questions about drinking behaviors in the past 30 days, which participants answer yes or no. Previous research has confirmed the adequate reliability and validity of this measure (Russell, 1994).

Other items were the following:

Relationship quality. Relationship quality was measured with two questions adapted from Ahrens & Campbell (2000): Whether the relationship has changed or remained the same, and how close the participant feels to the survivor. The first question is answered on a five point Likert scale and the second question on a three point Likert scale.

Victimization history. To see whether the impact on friends differs between those who have and have not experienced violence themselves, participants were asked: "Has a friend of yours ever told you that he/she was a survivor of IPV?"

Demographics. Participants were asked to give information about their gender, age, race and what country they are in.

Quality control. To ensure that participants are reading the questionnaire thoroughly, two items that measure quality were embedded into the survey. The first item, embedded within the Impact on Friends measure, is the following: "To monitor data quality, please select

‘Strongly agree’ for this question.” The second item was placed in the CESD depression scale: “To monitor data quality, please select ‘Rarely or none of the time for this question.’” Such items may verify that participants are actually reading the items (Meade & Craig, 2012), and the data from those who have not chosen the correct option are excluded from analysis. Studies have found that incorporating such controls can improve online data quality (Meade & Craig, 2012).

Procedure

Participants were recruited to complete a brief online survey. Users of the Mturk website read a brief project description and could decide whether they wanted to participate or not. Participants were presented with a definition of IPV and asked whether a friend had ever disclosed such an experience. The definition used was: “Intimate partner violence is a pattern of purposeful coercive behaviors that may include inflicted physical injury, psychological abuse, sexual assault, progressive social isolation, stalking, deprivation, intimidation and threats. These behaviors are perpetrated by someone who is, was or wishes to be involved in an intimate or dating relationship with an adult or adolescent survivor and are aimed at establishing control of one partner over the other” (Family Violence Prevention Fund, 1999). The Friends group gave information about demographics, whether they were survivors themselves, relationship quality, answered the Impact on Friends-IPV measure as well as completed measures of PTSD, problem drinking and depression. The Non-Friends group gave information about demographics, whether they were survivors themselves as well as measures of PTSD, problem drinking and depression. Participants were paid 10 cents for their time. The average time it took participants to complete the survey was 5 minutes and 18 seconds. Before participating, Mturk users were asked whether they have reached the age of 18 and whether they consented to participate in the study. The study was approved by the University’s Institutional Review Board.

Analysis

Data from participants who did not answer quality control items correctly were removed from the sample ($N = 382$). Next, a factor analysis was performed with the impact on friends items, which the Friends group (those who have had a friend disclose IPV) had answered. Exploratory Factor Analysis was performed to see whether the same three factor structure emerged with this sample, as in Banyard et al. (2010) and whether IPV-specific items loaded on those subscales. Factor analysis requires at least 10 participants per item (Cabrera-Nguyen, 2010), that condition was met here with 274 participants and 26 items. Psychological symptoms were computed for both groups to see whether the Impact on Friends measure predicts psychological outcomes. Demographic variables and own victimization history are also examined, to see whether any of these correlate with subscales of the Impact on Friends-IPV measure. The computer programs R (version 2.15.2) and SPSS (version 20) were used for these analyses.

RESULTS

Descriptive Information of Impact on Friends-IPV measure

First, I examined descriptive information about items in the Impact on Friends-IPV (IOF-IPV) measure, then I examine the factor structure of the measure, and finally I test the relationship of the factors to various psychological symptoms. Table 2 shows that the items most commonly endorsed (by at least 70% of participants) came from the Validation subscale of the Banyard et al. (2010) study, except for one item, which was IPV-specific. Those least commonly endorsed (by less than 30% of participants) came from the Ineffectiveness/Confusion subscale and one item from the Emotional Distress subscale of Banyard et al (2010). Less popular items may still be useful because around one-fourth of participants selected them. Therefore, most of the items are being used, potentially indicating that they reflect participants' experiences.

Relationship quality

The Friend group participants answered three items about the quality of the relationship between themselves and the survivor. The first item asked whether the relationship had gotten better, worse or stayed the same after disclosure. On a 5 point scale, most believe that the relationship stayed the same or got a little better ($M = 3.21$ and $SD = 1.01$). This also fits with how close participants feel to the survivor, which before the disclosure was $M = 2.39$, $SD = 0.60$ and after it, $M = 2.46$, $SD = 0.61$, (on a three point scale), indicating a slight but non-significant increase in the positive direction. An average of 6-12 months had passed between the IPV and the disclosure, ($M = 3.39$, $SD = 1.54$). Overall, these results suggest that some time had passed between the violence and the disclosure and that participants felt that their relationship was not negatively impacted.

Gender

Women and men responded similarly, except for three items. When asked whether they felt burdened by their friend's needs, men ($M = 2.97$) reported that to be the case more often than women ($M = 2.64$), $t = 2.26$, $p = 0.03$. Also, women ($M = 4.11$) reported more anger towards the perpetrator than men ($M = 3.82$), $t = -2.29$, $p = 0.02$. Finally, men ($M = 3.64$) reported more often than women ($M = 3.41$) that they felt they needed to become involved in efforts to combat IPV, $t = 2.02$, $p = 0.04$.

Victimization

Friends who are survivors and non-survivors differed on 12 items, as seen in Table 3. The items come from all three subscales of the Banyard et al. (2010) measure: Items 5 and 13 came from Validation subscale, items 6, 15, 17 and 21 from the Ineffectiveness/Confusion subscale and items 11, 16, 20, 23 and 25 from the Emotional Distress subscale. Finally, item 14 was IPV specific. Survivors were more likely to endorse all of the items, except for item 14, about anger against the perpetrator.

Psychological symptoms

The psychological symptoms measured for this study were depression symptoms, post-traumatic stress disorder (PTSD) symptoms and problem drinking. However, analyses of problem drinking were not performed, as a large portion of the sample reported not drinking alcohol at all (36.87%). There was a significant positive correlation between depression symptoms and PTSD symptoms, $r = 0.57$, $p < 0.001$.

Table 4 shows correlations between items of the IOF-IPV scale and psychological variables. The items vary in their relationships with depression and PTSD. A number of them have no significant relationship with psychological symptoms (items: 1, 3, 8, 10, 12, 13, 22, 24

and 26). On the other hand, many other items are strongly correlated with depression and PTSD, suggesting that these items may be driving the relationship between factors and psychological variables. Breaking the scale down into items may be useful to see exactly what parts of the IOF-IPV measure have an association with psychological symptoms.

I compared those who had a friend disclose violence with those who did not receive disclosures of violence. There were no significant differences for PTSD symptoms between friends of survivors ($M = 2.57, SD = 2.29$) and non-friends of survivors ($M = 2.86, SD = 2.22$), or on depression symptoms, (friends: $M = 15.30, SD = 4.99$, non-friends: $M = 15.15, SD = 4.48$). Next, I examined gender differences. Male friends ($M = 15.96, SD = 4.56$) reported significantly higher depression symptoms than female friends ($M = 14.40, SD = 5.43$), $t(212.62) = 2.46, p = 0.02, d = 0.31$. No other gender differences were significant. There were therefore no differences between friends and non-friends, and men reported more depression symptoms than women.

I also tested for victimization differences for PTSD and depression symptoms, seen in Table 5. Survivors reported significantly greater depression symptoms than non-survivors, (friends: $t(265) = 3.83, p < 0.001$, non-friends: $t(288) = 3.97, p < 0.001$). For PTSD symptoms, the same patterns was observed, with survivors reporting more symptoms than non-survivors (friends: $t(262) = 3.57, p < 0.001, d = 0.47$, non-friends: $t(287) = 2.50, p = 0.01, d = 0.30$). Survivors therefore report greater depression and PTSD symptoms than non-survivors.

Finally, I examined relationship quality by gender and victimization. Relationship quality did not differ by gender, but longer time had passed between IPV and disclosure for women ($M = 3.63, SD = 1.68$) than for men ($M = 3.23, SD = 1.39$), $t(271) = -2.14, p = 0.04, d = 0.26$. For victimization, less time elapsed between IPV and disclosure for survivors ($M = 3.03, SD = 1.50$) than for non-survivors ($M = 3.52, SD = 1.52$), $t(270) = -2.41, p = 0.02, d = 0.29$. Survivors

therefore waited longer to disclose to women and to those who have no personal experience of IPV.

Factor analysis

I performed an exploratory factor analysis on the items in the IOF-IPV scale to see whether the same structure would emerge as in Banyard et al (2010) and how IPV specific items would load onto that structure. The data collected is appropriate for factor analysis because a Bartlett's test of sphericity was significant, $\chi^2 (325) = 1649.46, p < 0.001$ and the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.78. First, I used parallel analysis to examine the structure of the data set, which suggested a five factor solution. Parallel analysis compares study data against random data to determine how many factors are present in the study data. Next, I ran a Principal Axis Factor analysis with promax rotation and five factors. Promax rotation is an oblique rotation, which was used because the constructs in the scale are likely to be correlated with each other (see Table 7). Also, oblique rotation is commonly used for factor analysis in the social sciences (Cabrera-Nguyen, 2010). Items that did not reach at least a 0.3 loading or loaded on more than 1 factor were excluded (a total of 7 items). The first three factors were similar to the Banyard et al. (2010) solution, roughly corresponding to the Emotional Distress, Validation and Confusion subscales. The subscales therefore seemed conceptually clear; reliability (Cronbach's alpha) ranged from 0.65-0.82. However, the fourth factor consisted of three items and the fifth factor of only two items and both of them had low reliability (around 0.40). This solution was not adequate because of the low reliability of the last two subscales and traditionally three items are considered a minimum for a factor (Cabrera-Nguyen, 2010).

Therefore, I ran a second factor analysis extracting four factors, see Table 7. Again, I used Principal Axis Factor Analysis and promax rotation, dropping cross-loading and non-

loading items (total of 6 items, number 4, 5, 6, 7, 16 and 20). The first three factors were similar to the previous solution, with the fourth and fifth factors of the previous solution combined into one factor. When examining these latter items, all of them address concerns that are more oriented towards IPV than SA. Some of them were in the Banyard et al (2010) scale but some were the new IPV items composed for this study. The factors were therefore Emotional Distress ($\alpha = 0.82$), Validation ($\alpha = 0.73$), Confusion ($\alpha = 0.65$) and IPV ($\alpha = 0.55$). Table 6 shows the standardized factor loadings for all of the items on the four factors and that most of them clearly load onto one factor. The communality coefficient (h^2) shows that the factors explain between 14 and 53% of the variance in each item, $M = 34.54\%$. A chi-square test of model fit was significant, $\chi^2(274) = 195.79, p < 0.001$.

The items in each factor seem to be conceptually similar and correspond well to the Banyard et al. (2010) solution, except the Ineffectiveness items did not load with the Confusion items. Three of the Ineffectiveness items, “Felt efforts didn’t help”, “Felt uncomfortable talking to him/her” and “Felt afraid I was causing more harm” instead loaded on the Emotional Distress factor, and the remaining two were dropped from the solution. The fourth factor, IPV, is a combination of new items and some from Banyard et al.’s study (2010), but all of them address concerns connected with IPV, such as own safety and feeling responsible to intervene.

Descriptive information and reliability of factors can be seen in Table 8. Although the last factor has low reliability, it is still higher than in the five factor solution and will therefore be retained. Table 9 shows the correlation between factors and how much variance each factor explains. All of the factors are significantly correlated. Together all of the factors explain 34% of the variance in the items.

Factor scores predicting psychological symptoms

First, I tested for factor score differences by victimization. Friends who were survivors ($M = 0.36$) were higher on the Emotional Distress subscale than non-survivors, ($M = -0.16$), $t(108.62) = 3.90, p < 0.001, d = 0.74$. No other factor scores differed by victimization. There were no factor score differences by gender.

Next, I tested whether factors predict psychological symptoms. For depression symptoms, both the Emotional Distress factor, and the IPV factor predict increased depression symptoms, $\beta = 2.21, p < 0.001$ and $\beta = 0.85, p = 0.04$, respectively. The Validation and Confusion factors do not predict depression symptoms. When examining PTSD, three of the factors predict increased PTSD symptoms: Emotional Distress, $\beta = 1.35, p < 0.001$, IPV, $\beta = 0.43, p = 0.01$ and Confusion, $\beta = 0.31, p = 0.08$ (although that relationship was marginally significant). Validation does not predict PTSD symptoms.

Using multiple regression to predict psychological symptoms revealed that only Emotional Distress predicted depression symptoms, $\beta = 2.52, p < 0.001$. For PTSD symptoms, Emotional Distress was still the only significant predictor, $\beta = 1.47, p < 0.001$. These results show that Emotional Distress best predicts psychological symptoms. Finally, Validation does not appear to have a significant protective effect on psychological symptoms.

Mediated regression

Because Emotional Distress was the only subscale that uniquely predicted depression, but IPV predicted depression on its own, I tested whether Emotional Distress acted as a mediator between IPV and depression. Emotional Distress fully mediates the relationship between IPV and Depression, CI 0.44-1.49. For PTSD symptoms, Emotional Distress fully mediated the relationship between IPV and PTSD symptoms (CI: 0.28-0.84). Emotional Distress also partially

mediated the relationship between Confusion and PTSD symptoms (CI: 0.36-83). Emotional Distress therefore seems to be a predictor on its own and acts as a mediator between other subscales and psychological problems.

Moderated regression

Given that Emotional Distress is the only subscale that uniquely predicts both depression and PTSD, I tested whether victimization status changed that relationship. Own victimization did not moderate the relationship between Emotional Distress and PTSD symptoms or depression symptoms.

DISCUSSION

The main purpose of this study was to develop a measure for the impact on friends of disclosure of IPV. An exploratory factor analysis of the items in the Impact on Friends-IPV scale revealed a similar factor structure as reported by Banyard et al. (2010): Emotional Distress, Validation and Confusion. In their study, they combined Confusion and Ineffectiveness subscales because they were highly correlated, but in this study, Ineffectiveness items either loaded onto the Emotional Distress scale or were dropped. In addition, the analysis showed a distinct factor for IPV, which consisted of a combination of items originally used by Banyard et al. (2010) and those added for this study, which were based on previous qualitative research (Latta & Goodman, 2011). Because this solution was similar to the scale for sexual assault, there seems to be important overlap in how violence impacts friends, both for IPV and SA. However, there also are concerns unique to IPV, which may be why those items specific to IPV constitute their own factor.

All items were endorsed by at least a quarter of participants, indicating that they may reflect participants' experiences. In fact, some of the items were endorsed by up to 80% of participants, which is higher than that found by Banyard et al. (2010) (9-65%). The items may therefore also reflect experiences of IPV friends, even though most of them were developed for friends of SA survivors. However, differences could also be attributed to different sampling, Banyard et al., (2010) used an in-person US college student sample with a mean age of 19.95, while most participants in this online study came from India and their mean age was 30.

When asked about relationship with the survivor, most participants who had a friend who had disclosed violence reported that their bond stayed the same or got a little better as a result of the disclosure, as was expected. This suggests that friends do not feel a negative impact when

survivors disclose IPV. These results are consistent with Ahrens and Campbell (2000), where participants reported little negative impact on the relationship and the positive aspects remained or improved slightly. This sustained relationship or a small positive change can therefore be seen both with IPV friends and SA friends.

Gender did not emerge as an important moderator for the Impact on Friends-IPV items. Consistent with Banyard et al.(2010), men felt more burdened by their friend's needs than women. However, in this study, men reported feeling that they should get involved in efforts to combat IPV, while Banyard et al.(2010) found no gender difference. Women also experienced more anger towards the perpetrator, possibly indicating that women empathize more with survivors than men do; this was a new item, so no comparison with previous research is possible. Additionally, Banyard et al. (2010) found differences on 10 items that did not emerge in this study, possibly indicating that men and women have greater differences in their attitudes towards SA than they do towards IPV. It is also possible that the difference can be attributed to the different samples used. The gender composition of the two samples was very similar, so that is unlikely to have contributed to these differences.

Participant victimization predicted different responses to several items. Friends who were survivors more often endorsed items about personal safety, such as "Became afraid for my own safety", "Felt a loss of sense of security" and "No longer felt the world was a safe place." They also were more likely to endorse items about Ineffectiveness, such as "Felt afraid I was causing more harm" and "Felt my efforts didn't help." Increased safety concerns of this group may stem from the disclosure reminding participants of their own IPV experience and invoke feelings of fear and uncertainty. Similarly, if participants did not get help when they were victimized, they might become pessimistic about their own ability to help a friend who has experienced IPV.

Banyard et al. (2010) did not test for victimization differences on individual items, but found that friends who were survivors scored higher than non-survivors only on the Emotional Distress subscale. Perhaps this indicates that it can be somewhat traumatic to deal with a friend's experience when you yourself are a survivor.

Psychological symptoms measured were depression symptoms, post-traumatic stress disorder (PTSD) symptoms and problem drinking. However, analyses of problem drinking were not performed, as a large portion of the sample reported not drinking alcohol at all (36.87%). This may be because a large number of participants in the sample are from India, where drinking is less accepted than in the Western world (Benegal, 2005).

Friends and Non-friends of survivors did not differ on depression and PTSD symptoms, so Friends did not exhibit more psychopathology than Non-Friends. Gender and victimization predicted depression symptoms, with male friends reporting greater symptoms than female friends, and friends who were survivors reporting greater depression and PTSD symptoms than non-survivors.

To establish predictive validity of the measure, I collected information about depression and PTSD symptoms of participants. Using simple regression, I found that both the IPV subscale and Emotional Distress predict increased depression symptoms. Neither Confusion nor Validation are connected with depression. However, when all subscales were entered into a regression equation together, Emotional Distress was the only subscale that still predicted depression symptoms. In fact, Emotional Distress fully mediated the relationship between IPV and depression, suggesting that IPV may lead to distress, which then predicts depression, but it is not the IPV items themselves that are directly connected with depression symptoms.

A similar pattern emerged with PTSD symptoms, where Emotional Distress, IPV and Confusion all predict increased PTSD symptoms. Validation had no relationship with PTSD symptoms. As with depression, Emotional Distress was the only subscale that uniquely predicted PTSD symptoms. In fact, Emotional Distress fully mediated the relationship between IPV and PTSD symptoms and partially mediated the connection between Confusion and PTSD symptoms. These results may mean that the effects of violence are radiating from the survivor to others, as previous research has suggested (Riger et al., 2002). In the future, more psychological variables should be tested, such as life satisfaction, preferably both before and after the disclosure, to more precisely map the impact of a friend disclosing IPV victimization.

Finally, I examined whether the impact could be explained with victimization of the friend, but found that victimization status did not moderate the relationship between Emotional Distress and the psychological variables (depression and PTSD). This suggests that being friends with an IPV survivor may be connected with psychological symptoms above and beyond being a survivor yourself.

These results show that the Emotional Distress subscale is the most useful one to predict psychological problems. IPV also predicts increased depression and PTSD symptoms, and for both of them, that effect works through Emotional Distress. Validation does not seem have a protective effect against psychological problems.

This study is limited because the data was collected from a convenience sample with limited race variation and included self-report and retrospective methods. The gender of the survivor is also unknown, which may influence how women and men react to and are affected by IPV. Also, in an effort to keep the survey short, short versions of psychological measurements were used, and relationship quality only assessed with three items. Administering longer and

more precise measurements in the future will probably be useful to help understand more about how the influence of IPV radiates to others.

The greatest limitation of this study is perhaps that most participants come from India. It is therefore possible that the results here are specific to that country or culture. There are several aspects of family life and gender roles that are different between India and the United States. For example, extended families in India traditionally live together (often three to four generations under the same roof) (Kumari, 2009) and arranged marriages are common (Nanda, 1998). These may have implications for how IPV is defined and addressed. For example, hiding IPV from relatives is probably more difficult when you live with them. Parents may also feel more responsible to intervene if their child's partner is being abusive when the parents have arranged the marriage themselves. IPV may therefore be seen as more of a family or a community issue than just between intimate partners, as is common in the Western countries. Finally, because male privilege and hierarchy is accepted within Indian culture (Derne, 1994), IPV may be seen as normal (especially non-violent, controlling aspects). All of these factors may have influenced how participants responded to the questionnaire.

Also, because data were collected online, the questionnaire may only have reached those who are wealthy enough to have a computer and internet access. The generalizability of the measure is therefore limited. However, a similar factor structure to Banyard et al. (2010) was found, suggesting that the sampling may not have drastically influenced the results. Another limitation is that even though factors seem conceptually clear and the reliability of the scale is adequate, explained variance is not very high and model fit could be better. Therefore, there is room for improvement of this measure. Possibly this measure does not tap into important aspects of being friends with survivors. For example, the measure does not assess whether the violence

has impacted other aspects of the friend's life, such as work and school, or whether relationships between the friend and other people have been affected. Finally, the measure focuses on individual friends and survivors and does not try to assess attitudes or activity in the surrounding community about IPV. Disclosing violence and asking for help would presumably be more challenging in an environment that does not address IPV or try to provide support for its survivors. In the future, a confirmatory factor analysis would enable us to see whether the same structure would emerge with a different sample. Also, because explained variance was low, perhaps there are some aspects of disclosure that have not yet been included in the scale, but that may emerge through qualitative work with friends of survivors. In the meantime, this exploratory study has given us some indication of how IPV radiates to friends of survivors and shown that although there is significant overlap with the impact of SA on friends, IPV has a unique impact.

CITED LITERATURE

- Ahrens, C. E., Cabral, G. & Abeling, S. (2009). Healing or Hurtful: Sexual Assault Survivors' Interpretations of Social Reactions From Support Providers. *Psychology of Women Quarterly*, 33(1), 81-94.
- Ahrens, C. E. & Campbell, R. (2000). Assisting Rape Survivors as They Recover From Rape: The Impact on Friends. *Journal of Interpersonal Violence*, 15(9), 959-986.
- Andresen, E. M., Malmgren, J. A., Carter, W. B. & Patrick, D. L. (1994). Screening for depression in well-older adults: Evaluation of a short form of the CES-D (Center for Epidemiologic Studies Depression Scale). *American Journal of Preventive Medicine*, 10(2), 77-84.
- Banyard, V. L., Moynihan, M. M., Walsh, W.A., Cohn, E. S. & Ward, S. (2010). Friends of Survivors: The Community Impact of Unwanted Sexual Experiences. *Journal of Interpersonal Violence*, 25(2), 242-256.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of general psychiatry*, 4(6), 561.
- Benegal, V. (2005). India: Alcohol and Public Health. *Addiction*, 100(8), 1051-56.
- Boehnert, K. M. & Breslau, N. (2011). Assessing the performance of the short screening scale for post-traumatic stress disorder in a large nationally representative survey. *International Journal of Methods in Psychiatric Research*, 20(1), 1-5.
- Budde, S. & Schene, P. (2004). Informal Social Support Interventions and their Role in Violence Prevention: An Agenda for Future Evaluation. *Journal of Interpersonal Violence*, 19(3), 341-355.

- Buhrmester, M., Kwang, T. & Gosling, S. D. (2011). Amazon's Mechanical Turk: A New Source of Inexpensive, Yet High-Quality Data? *Perspectives on Psychological Science*, 6(1), 3-5.
- Cabrera-Nguyen, P. (2010). Author Guidelines for Reporting Scale Development and Validation Results in the Journal of the Society for Social Work and Research. *Journal of the Society of Social Work and Research*, 1(2), 99-103.
- Campbell, R., Ahrens, C. E., Sefl, T., Wasco, S. M. & Barnes, H. E. (2001). Social Reactions to Rape Survivors: Healing and Hurtful Effects of Psychological and Physical Health Outcomes. *Violence and Survivors*, 16(3), 287-302.
- Campbell, R. S., Sullivan, C. M. & Davidson, W. S. II (1995). Women who use domestic violence shelters: Changes in depression over time. *Psychology of Women Quarterly*, 19(2), 237-255.
- Carlson, B. E., McNutt, L. A., Choi, D. Y. & Rose, I. M. (2002). Intimate Partner Abuse and Mental Health: The Role of Social Support and Other Protective Factors. *Violence Against Women*, 8(6), 720-745.
- Coker, A. L., Smith, P. H., McKeown, R. E. & King, M. L. (2000). Frequency and correlates of intimate partner violence by type: Physical, sexual, and psychological battering. *American Journal of Public Health*, 90 (4), 55-559.
- Coker, A. L. , Smith, P. H., Thompson, M. P., McKeown, R. E., Bethea, L. & Davis, K. E. (2002). Social Support Protects against the Negative Effects of Partner Violence on Mental Health. *Journal of Women's Health & Gender-Based Medicine*, 11(5), 465-476.

- Coker, A. L., Watkins, K. W., Smith, P. H. & Brandt, H. M. (2003). Social support reduces the impact of partner violence on health: Application of structural equation models. *Preventive Medicine, 37*(3), 259-267.
- Davis, R. C. & Brickman, E. (1996). Supportive and Unsupportive Aspects of the Behavior of Others Towards Survivors of Sexual and Nonsexual Assault. *Journal of Interpersonal Violence, 11*(2), 250-262.
- Derne, S. (1994). Hindu men talk about controlling women: Cultural ideas as a tool of the powerful. *Sociological Perspectives, 37* (2), 203-227.
- El-Bassel, N., Gilbert, L., Rajah, V., Folleno, A., & Frye, V. (2001). Social support among women in methadone treatment who experience partner violence: Isolation and male controlling behavior. *Violence Against Women, 7*(3), 246-275.
- Family Violence Prevention Fund. (1999). *Preventing domestic violence: Clinical guidelines on routine screening*. San Francisco: Family Violence Prevention Fund.
- Filipas, H.H. & Ullman, S.E. (2001). Social reactions to survivors of sexual assault from social network members. *Violence and Survivors, 16*, 673-692.
- Follingstad, D. R., Brennan, A. F., Hause, E. S., Polek, D. S., & Rutledge, L. L. (1991). Factors moderating physical and psychological symptoms of battered women. *Journal of Family Violence, 6*(1), 81-95.
- Golding, J. M. (1999). Intimate partner violence as a risk factor for mental disorders: A meta-analysis. *Journal of Family Violence, 14*(2), 99-132.
- Goodkind, J. R., Gillum, T. K. Bybee, D. I. & Sullivan, C. M. (2003). The Impact of Family and Friends' Reactions on the Well-Being of Women With Abusive Partners. *Violence Against Women, 9*(3), 347-343.

- Goodman, L., Dutton, M. A., Weinfurt, K. & Cook, S. (2003). The Intimate Partner Violence Strategies Index: Development and Application. *Violence Against Women*, 9(2), 163-186.
- Goodman, L. A., & Epstein, D. (2008). *Listening to battered women: A survivor-centered approach to advocacy, mental health, and justice*. Washington, DC: American Psychological Association.
- Goodman, J. K., Cryder, C. E. & Cheema, A. (2012). Data Collection in a Flat World: The Strengths and Weaknesses of Mechanical Turk Samples. *Journal of Behavioral Decision Making*, published online.
- Kilpatrick, D. G., Acierno, R., Resnick, H. S., Saunders, B. E., & Best, C. L. (1997). A 2-year longitudinal analysis of the relationships between violent assault and substance use in women. *Journal of Consulting and Clinical Psychology*, 65, 834 – 847.
- Krishnan, S. P., Hilbert, J. C., & VanLeeuwen, D. (2001). Domestic violence and help seeking behaviors among rural women. *Family and Community Health*, 24(1), 28-38.
- Kumari, R. (2009). Globalizing India and domestic violence against women. In S. Shirwadkar (Ed.), *Family Violence in India: Human Rights, Issues, Actions and International Comparisons* (210-225). New Delhi, India: Rawat Publications.
- Latta, R. E. & Goodman, L. A. (2011). Intervening in Partner Violence Against Women: A Grounded Theory Exploration of Informal Network Members' Experiences. *The Counseling Psychologist*, 39(7), 973-1023.
- Levendosky, A. A., Bogat, G. A., Theran, S. A., Trotter, J. S., von Eye, A., & Davidson, W. S. (2004). [The social networks of women experiencing domestic violence](#). *American Journal of Community Psychology*, 34(1/2), 95-109.

- Mancini, J. A., Nelson, J. P., Bowen, G. L., & Martin, J. A. (2006). Preventing intimate partner violence: A community capacity approach. *Aggression, Maltreatment, and Trauma, 13*(3/4), 207–231.
- Meade, A. W. & Craig, S. B. (2012). Identifying careless responding in survey data. *Psychological Methods, 17*(3), 437-455.
- Nanda, S. (2000). Arranging a marriage in India. In P. Devita, *Stumbling Toward Truth: Anthropologists at Work* (196–204). Prospect Heights, IL: Waveland Press.
- Nemeroff, C. B., Bremner, J. D., Foa, E. B., Mayberg, H. S., North, C. S. & Stein, M. B. (2006). Posttraumatic stress disorder: A state-of-the-science review. *Journal of Psychiatric Research, 40*(1), 1-21.
- Oppenheimer, D. M., Meyvis, T., & Davidenko, N. (2009). Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology, 45*, 867–872.
- Plichta, S. (2004). Intimate partner violence and physical health consequences: policy and practice implications. *Journal of Interpersonal Violence, 19*, 1296-1323.
- Riger, S., Raja, S. & Camacho, J. (2002). The Radiating Impact of Intimate Partner Violence. *Journal of Interpersonal Violence, 17*(2), 184-205.
- Russell, M., Martier, S. S., Sokol, R. J., Mudar, P., Bottoms, S., Jacobson, S., & Jacobson, J. (1994). Screening for Pregnancy Risk-Drinking. *Alcoholism: Clinical and Experimental Research, 18*(5), 1156-1161.
- Rose, L. E., Campbell, J., & Kub, J. (2000). The role of social support and family relationships in women's responses to battering. *Health Care for Women International, 21*(1), 27-39.

- Sackett, L. A., & Saunders, D. G. (1999). The impact of different forms of psychological abuse on battered women. *Violence and Victims, 14*, 105-117.
- Santor, D. A., Zuroff, D. C., Ramsay, J. O., Cervantes, P., & Palacios, J. (1995). Examining scale discriminability in the BDI and CES-D as a function of depressive severity. *Psychological Assessment, 7*(2), 131-139.
- Tan, C., Basta, J., Sullivan, C. M. & Davidson II, W. S. (1995). The Role of Social Support in the Lives of Women Exiting Domestic Violence Shelters: An Experimental Study. *Journal of Interpersonal Violence, 10*(4), 437-451.
- Temple, J. R. Weston, R., Stuart, G. L. and Marshall, L. L. (2008). The longitudinal association between alcohol use and intimate partner violence among ethnically diverse community women. *Addictive Behaviors, 33*, 1244-1248.
- Thompson, M. P., Kaslow, N. J., Kingree, J. B., Rashid, A., Puett, R., Jacobs, D., et al. (2000). Partner violence, social support, and distress among inner-city African American women. *American Journal of Community Psychology, 28*(1), 127-143.
- Ullman, S. E. (1996). Social reactions, coping strategies, and self-blame attributions in adjustment to sexual assault. *Psychology of Women Quarterly, 20*(4), 505-526.
- Ullman, S. E. (1999). Social support and recovery from sexual assault: A review. *Aggression and Violent Behavior: A Review Journal, 4*(3), 343-358.
- Ullman, S. E. (2000). Psychometric Characteristics of the Social Reactions Questionnaire. *Psychology of Women Quarterly, 24*, 257-271.
- Ullman, S. E., & Siegel, J. M. (1995). Sexual assault, social reactions, and physical health. *Women's Health: Research on Gender, Behavior, and Policy, 1*(4), 289-308.

White, H., & Chen, (2002). Problem drinking and intimate partner violence. *Journal of Studies on Alcohol and Drugs*, 64, 205-214.

Table 1

Demographics for participants included and excluded from analysis as well as demographics for Friends and Non-friends

		Included <i>N</i> = 569	Excluded <i>N</i> = 382	Friends <i>N</i> = 274	Non-Friends <i>N</i> = 295
Age	Mean	29.82	28.04**	30.13	29.53
	Standard deviation	9.20	8.23	9.99	8.41
Gender	Female	242 (42.53)	114 (33.83)	115 (41.97)	127 (43.05)
	Male	326 (57.29)	181 (53.71)	158 (57.66)	168 (56.95)
	Missing	1 (0.18)	42 (12.47)	1 (0.36)	0 (0.00)
Race	White	119 (20.62)	27 (8.74)	66 (23.74)	53 (17.73)
	Black	15 (2.60)	7 (2.27)	10 (3.65)	5 (1.67)
	Hispanic	8 (1.39)	3 (0.97)	5 (1.80)	3 (1.00)
	Asian	396 (68.63)	232 (75.08)**	185 (66.55)	211 (70.57)*
	Pacific Islander/Native Hawaiian	3 (0.52)	3 (0.97)	1 (0.36)	2 (0.67)
	Alaska Native/American Indian	5 (0.87)	9 (2.91)	2 (0.73)	3 (1.00)
	Other	31 (5.37)	28 (9.06)	9 (3.24)	22 (7.36)*
Country	India	402 (70.65)	265 (78.64)**	184 (67.15)	218 (71.95)*
	United States	123 (21.62)	13 (3.86)	70 (25.55)	53 (17.49)
	Other	44 (7.73)	7 (2.08)	18 (6.60)	26 (8.58)
	Missing	0 (0.00)	52 (15.43)	2 (0.73)	6 (1.98)
Has a friend	Yes	274 (48.15)	140 (41.54)	274 (100.00)	0 (0.00)
	No	295 (51.85)	155 (45.99)	0 (0.00)	295 (100.00)
	Missing	0 (0.00)	42 (12.46)	0 (0.00)	0 (0.00)
Own victimization history	Yes	96 (16.87)	93 (27.60)**	78 (28.47)	18 (6.10)**
	No	473 (83.13)	200 (59.35)	196 (71.53)	277 (93.90)
	Missing	0 (0.00)	44 (13.06)	0 (0.00)	0 (0.00)

* difference is significant at the $p < 0.05$ level.** difference is significant at the $p < 0.001$ level.

Table 2.

Number and percentage of participants who agreed or strongly agreed with each item on the Impact on Friends Scale

Items	Number of participants who agreed or strongly agreed	Percentage
1. I didn't know what to do	140	51.10
2. I was unsure what my friend needed	136	49.60
3. I felt responsible to intervene	175	63.90
4. I was disappointed because my friend did not listen to me	94	34.30
5. I felt at ease dealing with my friend's experience	125	45.70
6. I felt burdened by my friend's needs	94	34.30
7. I felt I wasn't supportive enough	91	33.20
8. I felt good about myself for helping	210	76.60
9. I became angry at society for IPV	170	62.00
10. I didn't know enough	97	35.40
11. I became afraid for my own safety	95	34.60
12. I felt appreciated	150	54.70
13. I felt more knowledgeable about this problem	195	71.20
14. I felt angry at the perpetrator	195	71.20
15. I felt afraid I was causing more harm	73	26.60
16. I felt a loss of sense of security	102	37.20
17. I felt uncomfortable talking to him/her	63	23.00
18. I felt like I needed to become involved in efforts to deal with the broader problem of IPV	165	60.20
19. I felt upset dealing with my friend's experience	167	60.90
20. I no longer felt that the world was a safe place	131	47.80
21. I felt my efforts didn't help	88	32.10
22. I felt I was doing a good job helping my friend	199	72.60
23. I became afraid of being victimized	90	32.80
24. I was disappointed that my friend put up with the violence	172	62.80
25. I became afraid to do things I did before	69	25.10
26. I felt I was a good source of support for my friend	219	80.00

Table 3.
Victimization differences on the Impact on Friends-IPV measure

	Mean		
	Survivors	Not survivors	<i>t</i>
1. Didn't know what to do	3.03	3.26	-1.55
2. Unsure what my friend needed	2.97	3.20	-1.47
3. Felt responsible to intervene	3.57	3.64	-0.49
4. Disappointed because my friend did not listen to me	2.80	2.82	-0.13
5. Felt at ease dealing with my friend's experience	3.28	3.01	1.84
6. Felt burdened by my friend's needs	3.05	2.75	1.87
7. Felt I wasn't supportive enough	2.78	2.85	-0.50
8. Felt good about myself for helping	3.97	3.90	0.66
9. Became angry at society for IPV	3.45	3.67	-1.39
10. Didn't know enough	2.87	2.97	-0.75
11. Became afraid for my own safety	3.04	2.62	2.64*
12. Felt appreciated	3.59	3.39	1.39
13. Felt more knowledgeable about this problem	3.94	3.72	2.03*
14. Felt angry at the perpetrator	3.71	4.02	-2.10*
15. Felt afraid I was causing more harm	2.99	2.55	2.89*
16. Felt a loss of sense of security	3.28	2.76	3.50**
17. Felt uncomfortable talking to him/her	2.83	2.33	3.02*
18. Felt like I needed to become involved in efforts to deal with the broader problem of IPV	3.67	3.50	1.46
19. Felt upset dealing with my friend's experience	3.53	3.46	0.51
20. No longer felt that the world was a safe place	3.47	3.11	2.51*
21. Felt my efforts didn't help	3.01	2.69	2.10*
22. Felt I was doing a good job helping my friend	3.74	3.83	-0.66
23. Became afraid of being victimized	3.05	2.65	2.69*
24. Disappointed that my friend put up with the violence	3.43	3.62	-1.28
25. Became afraid to do things I did before	3.09	2.46	4.25**
26. Felt I was a good source of support for my friend	3.96	3.93	0.25

* Difference significant at the 0.05 level

** Difference significant at the 0.001 level

Table 4
Correlation between IOF items and psychological symptoms

	Depression	PTSD
1. I didn't know what to do	-0.01	0.02
2. I was unsure what my friend needed	0.16*	0.13*
3. I felt responsible to intervene	0.06	0.05
4. I was disappointed because my friend did not listen to me	0.18**	0.23**
5. I felt at ease dealing with my friend's experience	0.26**	0.21**
6. I felt burdened by my friend's needs	0.20**	0.24**
7. I felt I wasn't supportive enough	0.21**	0.16*
8. I felt good about myself for helping	0.11	0.03
9. I became angry at society for IPV	0.18**	0.05
10. I didn't know enough	0.01	0.07
11. I became afraid for my own safety	0.30**	0.36**
12. I felt appreciated	0.05	-0.03
13. I felt more knowledgeable about this problem	0.04	0.09
14. I felt angry at the perpetrator	-0.18**	-0.11
15. I felt afraid I was causing more harm	0.19**	0.37**
16. I felt a loss of sense of security	0.24**	0.39**
17. I felt uncomfortable talking to him/her	0.16*	0.35**
18. I felt like I needed to become involved in efforts to deal with the broader problem of IPV	0.21**	0.15*
19. I felt upset dealing with my friend's experience	0.09	0.15*
20. I no longer felt that the world was a safe place	0.27**	0.35**
21. I felt my efforts didn't help	0.23**	0.28**
22. I felt I was doing a good job helping my friend	0.01	-0.05
23. I became afraid of being victimized	0.38**	0.45**
24. I was disappointed that my friend put up with the violence	0.09	0.11
25. I became afraid to do things I did before	0.37**	0.44**
26. I felt I was a good source of support for my friend	0.01	-0.11

* Difference significant at the 0.05 level

** Difference significant at the 0.001 level

Table 5
Psychological symptoms by victimization

	Friends			Non-friends		
	Survivors (<i>N</i> = 78)	Non-survivors (<i>N</i> = 196)		Survivors (<i>N</i> = 18)	Non-survivors (<i>N</i> = 277)	
Depression	17.12	14.59	**	19.11	14.89	**
PTSD	3.34	2.24	**	4.11	2.77	*

* Difference significant at the 0.05 level

** Difference significant at the 0.001 level

Table 6

Standardized factor loadings of items and how much variance of each item the factor solution explains (h^2)

	Emotional Distress	Validation	Confusion	IPV	h^2
1. Didn't know what to do	-0.10	0.18	0.79	0.03	0.48
2. Unsure what my friend needed	0.00	0.11	0.70	0.02	0.43
3. Felt responsible to intervene	-0.11	0.10	-0.03	0.37	0.14
4. Disappointed because my friend did not listen to me	0.28	-0.06	0.13	0.07	0.15
5. Felt at ease dealing with my friend's experience	0.35	0.40	-0.12	-0.17	0.26
6. Felt burdened by my friend's needs	0.33	-0.11	0.16	0.00	0.21
7. Felt I wasn't supportive enough	0.19	-0.15	0.27	0.06	0.26
8. Felt good about myself for helping	0.03	0.59	-0.09	0.12	0.42
9. Became angry at society for IPV	0.01	0.07	-0.01	0.44	0.20
10. Didn't know enough	0.15	-0.06	0.47	-0.02	0.32
11. Became afraid for my own safety	0.68	0.07	-0.06	0.04	0.45
12. Felt appreciated	-0.01	0.61	0.17	-0.11	0.29
13. Felt more knowledgeable about this problem	0.20	0.48	-0.11	0.04	0.29
14. Felt angry at the perpetrator	-0.26	0.12	0.15	0.44	0.23
15. Felt afraid I was causing more harm	0.55	-0.09	0.10	0.06	0.41
16. Felt a loss of sense of security	0.61	-0.11	-0.11	0.22	0.49
17. Felt uncomfortable talking to him/her	0.53	-0.04	0.20	-0.04	0.39
18. Felt like I needed to become involved in efforts to deal with the broader problem of IPV	0.24	0.28	-0.16	0.33	0.30
19. Felt upset dealing with my friend's experience	0.14	-0.17	0.09	0.43	0.32
20. I no longer felt that the world was a safe place	0.40	0.00	-0.28	0.42	0.42
21. Felt my efforts didn't help	0.39	-0.21	0.18	0.00	0.35
22. Felt I was doing a good job of helping my friend	-0.06	0.75	0.14	0.07	0.50
23. Became afraid of being victimized	0.77	0.01	-0.13	-0.05	0.53
24. I was disappointed that my friend put up with the violence	0.03	0.12	0.18	0.40	0.22
25. Became afraid to do things I did before	0.72	0.18	0.08	-0.14	0.47
26. Felt I was a good source of support for my friend	-0.11	0.71	0.24	0.20	0.45

Table 7

Standardized factor loadings of items.

Item	Factors			
	Emotional Distress	Validation	Confusion	IPV
23. Became afraid of being victimized	0.78			
25. Became afraid to do things I did before	0.74			
11. Became afraid for my own safety	0.69			
17. Felt uncomfortable talking to him/her	0.54			
15. Felt afraid I was causing more harm	0.53			
21. Felt my efforts didn't help	0.36			
22. Felt I was doing a good job of helping my friend		0.87		
26. Felt I was a good source of support for my friend		0.73		
8. Felt good about myself for helping		0.59		
12. Felt appreciated		0.50		
13. Felt more knowledgeable about this problem		0.37		
1. Didn't know what to do			0.81	
2. Unsure what my friend needed			0.68	
10. Didn't know enough			0.51	
24. I was disappointed that my friend put up with the violence				0.51
14. Felt angry at the perpetrator				0.50
3. Felt responsible to intervene				0.42
19. Felt upset dealing with my friend's experience				0.39
9. Became angry at society for IPV				0.39
18. Felt like I needed to become involved in efforts to deal with the broader problem of IPV				0.34

Table 8

Descriptive information for Impact on Friends subscales.

Subscale	α	M	SD	Observed range	
Emotional Distress	0.82	-0.01	0.91	-2.17	2.71
Validation	0.73	0.00	0.91	-3.64	2.15
Confusion	0.65	0.00	0.87	-2.31	2.27
IPV	0.55	0.02	0.79	-3.26	2.45

Table 9
Correlation between factors

	Emotional Distress	Validation	Confusion	IPV	Proportion of variance explained
Emotional Distress	1	-0.21**	0.39**	0.28**	0.13
Validation	-	1	-0.53**	0.22**	0.09
Confusion	-	-	1	0.11*	0.05
IPV	-	-	-	1	0.07

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.001 level

INSTITUTIONAL REVIEW BOARD APPROVAL

UNIVERSITY OF ILLINOIS AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice Chancellor for Research (MC 672)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

Approval Notice Amendment to Research Protocol and/or Consent Document – Expedited Review UIC Amendment # 1

March 11, 2013

Rannveig Sigurvinsdottir
Psychology
1007 W Harrison, M/C 285
Chicago, IL 60612
Phone: (312) 371-5715

RE: Protocol # 2012-0966
“The Impact of Intimate Partner Violence on Friends of Survivors”

Dear Ms. Sigurvinsdottir:

Members of Institutional Review Board (IRB) #2 have reviewed this amendment to your research and/or consent form under expedited procedures for minor changes to previously approved research allowed by Federal regulations [45 CFR 46.110(b)(2) and/or 21 CFR 56.110(b)(2)]. The amendment to your research was determined to be acceptable and may now be implemented.

Please note the following information about your approved amendment:

Amendment Approval Date: March 4, 2013

Amendment:

Summary: UIC Amendment #1 dated February 25, 2013, received February 27, 2013, is a investigator-initiated amendment to: 1) Revise the protocol showing changes in the method of data collection for the topic and to add measures to the survey used. Also, the PI abandoned collecting data from UIC students and to collect data through Amazon's Mechanical Turk. 2) There will be more measures added to the survey and a question will be added asking participants whether they themselves are IPV (Intimate Partner Violence) survivors or how they are impacted by having a friend who is an IPV survivor. Those who have a friend who is an IPV victim will complete demographic information, the Impact of Friends Measure and the three new measures of depression, post-traumatic stress disorder and problem drinking. Those who do not have a friend who is an IPV survivor will complete all of the same measures except the Impact on Friends scale. That group will therefore act as a comparison group, which will be especially useful for the measures of depression, post-traumatic stress disorder and problem drinking. The documents that are being revised are: the research protocol, a new informed consent form, a new debriefing form, a new subject information sheet, appendix Z (because the research is funded by the UIC Psychology department) and appendix

K (because data will no longer be collected at UIC). The screening question will no longer be used and will be replaced with a recruitment posting.

Sponsor:

Department of Psychology

Research Protocol(s):

- a) Impact on Intimate Partner Violence on Friends of Survivors Research Protocol; Version 2; 02/25/2013

Recruiting Material(s):

- a) Recruitment posting, Version 2, 3/9/13

Informed Consent(s):

- a) Debriefing Form; Version 3; 02/25/2013
- b) Informed Consent; Version 3; 02/25/2013

Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
02/27/2013	Amendment	Expedited	03/04/2013	Approved

Please be sure to:

→ Use **only the IRB-approved and stamped consent document(s) and/or HIPAA Authorization form(s) enclosed with this letter when enrolling subjects.**

→ Use your research protocol number (2012-0966) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,

"UIC Investigator Responsibilities, Protection of Human Research Subjects"

(<http://tiger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf>)

Please note that the UIC IRB #2 has the right to ask further questions, seek additional information, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact the OPRS at (312) 996-1711 or me at (312) 355-2939. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Jewell Hamilton, MSW

IRB Coordinator, IRB # 2

Office for the Protection of Research Subjects

Enclosure(s):

1. Informed Consent Document(s):

- a) Debriefing Form; Version 3; 02/25/2013
- b) Informed Consent; Version 3; 02/25/2013

2. Recruiting Material(s):

a) Recruitment posting, Version 2, 3/9/13

cc: Stephanie Riger, Faculty Sponsor, Psychology, M/C 285
Joe L. Martinez, Psychology, M/C 285

VITA

RANNVEIG SIGURVINSDDOTTIR

University of Iceland

B.Sc. in Psychology

2011

Honors Thesis: “Attitudes of Icelandic Police Officers towards Intimate Partner Violence”

AWARDS

Fulbright scholar

2011 – 2016

TEACHING EXPERIENCE

University of Illinois at Chicago

Teaching assistant- Research methods in Psychology

2012

Directed discussion sections, graded papers and met with students.

Teaching assistant- Introduction to Psychology

2011-2012

Directed discussion sections, graded papers and met with students.

University of Iceland

Teaching assistant- Introduction to Psychology

2009-2010

Directed discussion sections and helped students.

RESEARCH EXPERIENCE

University of Illinois at Chicago

Research assistant

2012 – present

Worked on the Women’s Stress and Support Study, a large NIAAA funded study of sexual assault survivors.

Responsibilities included writing academic papers, mentoring undergraduate students, meeting and discussing with the research team as well as processing surveys, paying participants and conducting qualitative interviews.

PUBLICATIONS AND PAPERS

Conference presentations

Sigurvinsdottir, R. & Ullman, S. E. (2013). *Differences in Sexual Risk Behaviors of Lesbian, Bisexual and Heterosexual Sexual Assault Victims*. To be presented at the 69th Annual Meeting of the American Society of Criminology in November 2013.

Sigurvinsdottir, R. (2013). *Dating Violence: The Impact on Friends*. Presented at the Biennial Conference of the Society for Community Research and Action (APA division 27) on June 27th 2013.

Sigurvinsdottir, R. & Ullman, S. E. (2013). *Social Reactions, Self-Blame and Problem Drinking for Sexual Assault Survivors*. Presented at the Midwestern Psychological Association Conference on May 4th 2013.

Sigurvinsdottir, R. & Ullman, S. E. (2013). *Post-assault adjustment differences of sexual assault survivors by sexual orientation*. Presented at the Chicago Graduate Student Research Symposium on April 5th 2013.

Sigurvinsdottir, R. & Ullman, S. E. (2012). *Self-Blame, Negative Social Reactions and Problem Drinking for Female Survivors of Sexual Assault*. Presented at the Midwest Ecological-Community Psychology Conference on October 13th, 2012.

Sigurvinsdottir, R. (2011). *Attitudes of Icelandic Policemen Towards Interpersonal Violence*. Presented at the 12th Conference of the International Academy of Investigative Psychology. Crime, Criminalistics and Criminal Psychology: New Directions in Investigative Behavioural Science on 31st March-2nd April 2011.

Publications

Sigurvinsdottir, R. & Riger, S. (2012). *The Criminal Justice Response to IPV: Problems and Possibilities*. (Revise and resubmit in progress).

Sigurvinsdottir, R. & Ullman, S. E. (2013). *The Role of Sexual Orientation on Victimization and Recovery from Sexual Assault*. (Under review.)

Ullman, S. E. & Sigurvinsdottir, R. (2013). *Intimate Partner Violence History and Drinking in Adult Sexual Assault Victims*. (Under review.)

PROFESSIONAL TRAINING

Official, certified 40 hour training for domestic violence workers with the Chicago Metropolitan Battered Women's Network. Completed in January 2012.