An Egocentric Network Analysis of Women Survivors of Intimate Partner Violence: Conclusion

The pilot study presented in the second and third manuscripts is the first social network analysis to examine the relationship between support network characteristics and mental health outcomes of intimate partner violence survivors. This pilot study was informed by previous social network analyses and social network mapping studies described in the first manuscript. The relationship between network size, density, and tie strength with depressive symptomology and PTSD symptomology was explored. It is only the second social network analysis to compare a suite of network characteristics of IPV survivors to women who have not experienced violence (Katerndahl et al., 2013). Social network instruments were tested and pilot data was collected to inform a future population-based study of IPV support networks that would be the first of its kind.

The support networks of IPV survivors were compared to those of women who had not experienced violence, followed by an analysis of the relationship between network characteristics and health outcomes while accounting for difference in IPV status and demographics between groups. Ultimately, the size of networks was the most notable network characteristic in both analyses. Survivors' networks were significantly smaller than that of comparison women. Additionally, network size was the only network characteristic that was significant in predicting depressive and PTSD symptomology. The sample size of the pilot study likely impacted the ability to detect other differences between networks and the predictive ability of network characteristics on mental health outcomes. This limitation is discussed further and recommendations for future research are made hereunder.

The second manuscript presents the comparison of social network characteristics between IPV survivors and a comparison group of women. The networks of IPV survivors were smaller compared to the group of comparison women in the study. A number of other network characteristics were tested but did not appear to differ between groups, even with differences in age and income level. This finding of smaller networks among abused women is congruent with previous studies of survivors' networks. In the previous studies that compared the network size of abused women to never-abused women, the abused women had significantly smaller networks (Katerndahl et al., 2013; Willie et al., 2019). Additionally, network size has been found to decrease as severity of violence increases (Rodriguez-Hernandez, 2016; Willie et al., 2019). Neither the present study nor previous studies tested whether IPV causes women to have smaller network size and less contact with their network or if having a smaller support network is a risk factor for experiencing violence. However, survivors are known to experience social isolation due to psychological aggression by an intimate partner (Smith et al., 2017). A longitudinal study design may be able to detect the direction of the relationship between network size and IPV.

Other network characteristics were tested in the pilot study; however, no difference was found between survivors' networks and the networks of the comparison group based on these characteristics. Again, sample size likely impacted the ability to detect any differences beyond network size. One previous study found the networks of survivors to have a lower density in comparison to women who had not experienced abuse (Katerndahl et al., 2013). IPV survivors had "low density" networks in a small study of women experiencing violence in Brazil (Vieira et al., 2015). However, in a comparison between the networks of women with and without IPV in the past six months, there was no significant difference in network density (Willie et al., 2019).

Types of relationships were explored in previous studies as well. While the present pilot study did not find a difference in relationship types between the networks of survivors and comparison women, Katerndahl et al. (2013) found survivors had a greater percentage of female network members and a greater percentage of relatives in comparison to women in the control group. The distribution of relationship types were similar among the two groups in the pilot study.

While the current pilot study did not find survivors to have a greater percentage of women in their networks on average, qualitative analysis of interviews revealed the importance of female friends and family members in providing support to survivors. Female network members were the most frequently mentioned when survivors were asked about support provided by their network. Female friends and family members were nominated by survivors when asked about examples of network members providing helpful forms of support. Female network members were more likely to provide emotional support such as listening. The survivors interviewed in the pilot study perceive the quality and type of support given by female network members to have a positive impact overall.

The third manuscript presents the analysis of social network characteristics and mental health outcomes. To the author's knowledge, no previous study has been conducted on network characteristics and mental health outcomes of IPV survivors. While network size appeared to be the only significant predictor of depressive and PTSD symptomology, it is possible the influence of other network characteristics on mental health outcomes were not detected due to the small sample size of the pilot study. Network density and tie strength may in fact have a relationship with mental health outcomes, but that relationship was not elicited from the pilot study. Future

studies should build upon this unique pilot study as more social network data is needed to develop social-network based interventions.

Several limitations of the pilot study presented in the second and third manuscripts are identified and should be considered. The most significant limitation to interpretation of the findings is the small sample size used for the pilot study. Additionally, the direction of the relationship between network characteristics and health outcomes was not determined. These issues may be addressed in future studies with larger sample sizes and a longitudinal design that borrow from the SNA methods utilized in this pilot study.

The purpose of this pilot study, in part, is to inform the methods of future social network analyses of intimate partner violence. Differences in network characteristics as well as the influence of network characteristics on health outcomes that were not captured in this pilot study may be revealed with a larger sample size. A future, large population-based study could utilize the network instruments and analytical techniques from this pilot study.

Overall, the multi-name generators and interpreters were found to be acceptable by the participants and produced data suitable for the network measures included in this pilot study. However, some participant fatigue was noted. Prompts with clear explanations of each instrument were needed as well as some guidance and reminders of the prompts throughout the interview. Limiting the number of alters listed to 15-20 alters is recommended to avoid participant fatigue, particularly for the alter-alter interpreter instrument. Eliciting 15-20 alters has been shown to be sufficient in producing reliable and valid ego-network measures (Perry et al., 2018). Some participants experienced fatigue while responding to the alter-to-alter tie interpreter. Following this pilot study, it is recommended that future studies limit the number alters to 20 or less.

A cross-sectional study design was used in this pilot study, meaning only the characteristics of the network at the time of data collection were captured. A longitudinal study design is recommended to capture changes in survivors' support networks over time. This study design would be particularly useful in identifying changes in the network from the survivor being in the abusive relationship to leaving the relationship. Changes in the network may include changes in network size, the centrality or importance of particular alters in the network, and changes in tie strength among actors in the network. Semi-structured interviews conducted at specified intervals could bring additional qualitative context to those changes in networks over time. While a longitudinal study would require more resources and time, it would answer questions about social networks and IPV that have yet to be answered.

A longitudinal SNA could address questions on the relationship between changes in network characteristics and changes in mental health over time. For example, a correlation between changes in network size and an increase or decrease in depressive symptomology could be tested. This future study may answer the lingering question of causal direction between network characteristics and mental health outcomes that the present pilot study was not able to determine. Knowledge of the direction of this relationship is needed to develop appropriate and actionable interventions.

In addition, qualitative data would be needed to give context to the changes in the survivors' network over time. Mixed-methods approaches are recommended to provide additional meaning to the social network data. It would be essential to understand the meaning behind changes in survivors' networks. Qualitative interviews could include questions on the reasons for changes in network characteristics, greater context on individual relationships within the network and why they were or were not maintained, and the influence of the abuser on those relationships. A

qualitative analysis of this data can help researchers better understand the relationship between support networks and violence and make better-informed recommendations for future interventions.

The pilot study presented in this dissertation serves as the first step in the planned program of research on social networks and health of IPV survivors. It introduces social network analysis as a method for understanding survivors' support networks and their relationship to health outcomes and provides adaptations of SNA instruments for violence research. This dissertation also highlights SNA as a useful method for nursing research in general. The methods used in the second and third manuscripts could inform the methods used to answer a number of nursing research questions. The possibilities range from analyzing the social networks of nursing students to the support networks of oncology patients. While the use of SNA methods by nurse researchers has increased (Benton, 2015), a social network-focused nursing program of research has yet to be developed to the author's knowledge.

In conclusion, the dissertation presents an original pilot study that is unique in its aims and serves as the start of a program of research that can develop new knowledge about the relationship between IPV, social networks and health outcomes through SNA methodology. In the long term, such a program can contribute to knowledge of networks of IPV survivors and the changes to those networks over time in relation to abuse, help-seeking, changes in mental health, and other factors. Ultimately, such knowledge will inform social network interventions for violence that are centered on survivors and the communities they trust and look to for support.

Resources

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