Which Aspects of Social Support Enhance Positive Mental Health in the Context of Intimate Partner Violence?

Social Support and Positive Mental Health in an IPV context.

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KEY WORDS

Intimate Partner Violence; Social Support; Positive Mental Health; New Zealand

ABSTRACT

While there is evidence that social support can mitigate mental illness symptoms associated with intimate partner violence, there is a need to explore if social support can promote positive mental health. In this New Zealand population-based study of women who had experienced physical and/or sexual violence (n= 453), structural equation modelling showed that most facets of social support (friends, family, and neighbours) had a significant correlation with each dimension of positive mental health, as measured by Keyes' Mental Health Continuum Short Form. Safety from IPV (no recent IPV experience) is a pre-requisite before social support can assist women to attain positive mental health. Further work is required to ensure friends, family and communities have the knowledge and resources to provide effective social support.

INTRODUCTION

Intimate Partner Violence (IPV) is defined as behaviour by an intimate partner or ex-partner which can include physical aggression, sexual coercion, psychological abuse, and controlling behaviours (World Health Organization, 2016). Globally, one in three women have experienced physical and/or sexual IPV (World Health Organization, 2016). Similarly, in New Zealand (NZ), one in three women are affected (Fanslow & Robinson, 2004).

IPV experience is associated with adverse physical health outcomes, including death, injury, and disability (Dillon, Hussain, Loxton & Rahman, 2013; Lagdon, Armour & Stringer, 2014). Poor mental health has also been noted, including increased risk of worse psychological well-being, depressive symptoms, substance abuse, chronic mental illness, and Post-Traumatic Stress Disorder (Escribà-Agüir et al., 2010; Coker, Davis, Arias, Desai, Sanderson, Brandt & Smith, 2002a; Bradley, Schwartz & Kaslow, 2005). A study from Victoria, Australia found that depression, anxiety, and suicide made up 35%, 27%, and 11% of the burden of disease attributable to IPV for women respectively (VicHealth, 2004).

Given that IPV is common and has detrimental impacts on mental health, there is a need to determine if and how these consequences might be mitigated and identify what supports may help women who have experienced IPV. Research has demonstrated that most women exposed to IPV seek help from informal sources such as family, friends, and their community (e.g., neighbors) (Fanslow & Robinson, 2010). The available research suggests that women who experienced IPV but who maintained supportive social ties are less likely to experience adverse mental health outcomes associated with violence and more likely to experience enhanced wellbeing (Ahmad, Rai, Petrovic, Erickson & Stewart, 2013; Broughton & Ford-Gilboe, 2017; Machisa et al., 2018; Carlson et al., 2002; Costa & Gomes, 2018).

Social support may help women mitigate feelings of alienation from social connections (isolation) caused by abusers and can counteract the reduced sense of self-worth which some

women may feel after violent experiences (Coker et al., 2003). However, other research has indicated that the effects of social support in reducing adverse health outcomes was more notable for those who had experienced less severe trauma (Krauss, Wilson, Padrón & Samuelson, 2016). This suggests the need to consider severity of abuse while investigating the association between social support and mental health outcomes in the context of IPV.

Previous research has also identified potential differences in the impact of social support on mental ill-health across ethnic groups. For example, Lee et al. (2007) found that social support was not a mediator between IPV and psychological distress for Asian women, but it was for Caucasian women. Potential reasons could be that social support systems were not tailored to the needs of Asian women who have experienced IPV (Lee, Pomeroy & Bohman, 2007). Another study of social support among women in an Alaskan shelter found that native women reported higher family social support than non-native women, which could result from differing cultural norms of supporting family members (Burrage et al., 2021). The importance of social support has also been noted for Māori (Indigenous people of New Zealand) (Hoeata, Nikora, Li, Young-Hauser & Robertson, 2011; Wilson, Jackson, & Herd, 2016). These findings suggest that exploration of the impact of social support in the context of IPV needs to consider ethnicity, as social support may operate differently across different ethnic groups.

The circumstances in which social support is provided also may be relevant. Wright (2015) found that social support from family and friend was useful in the context of IPV, but that women in more disadvantaged areas were less protected from IPV victimization (even when they received social support from family) compared to women in less disadvantaged areas. This suggests the importance of understanding how social support may interact with the availability of material and financial resources.

Shumaker and Brownell (1984) define social support as any provision of assistance, which may be financial or emotional. However, who the support comes from may also be relevant. Family, friends, neighbors and or co-workers have all been identified as important sources of support (Coker, et al., 2002b; Coker, et. al., 2003; Sylaska & Edwards, 2014).

The above studies provide useful insights on the impact of social support in the context of IPV, but most of them have defined mental health as "fewer problems" or "the absence of mental illness" (e.g., fewer symptoms of depression, anxiety, mental distress and PTSD). An alternative way of assessing mental health, distinct from measuring the absence of mental illness, has been developed which focuses on measuring mental health as a 'positive state' defined as optimal psychological functioning and a general feeling of well-being (Keyes, 2002). In this conceptualization, positive mental health operates and can be measured independently from mental ill-health (Keyes, 2002). Measuring mental health as a 'positive state' strengthens opportunities to move beyond a deficit model, as positive mental health is associated with a range of health benefits (e.g., improved physical health and productivity, Keyes, 2007; Keyes, 2002). At present, there are no studies which have measured the effects of social support on positive mental health in the context of IPV.

As social support has emerged as a significant factor the mitigating the effects of IPV on mental ill-health, we propose that it may also be helpful in contributing to positive mental health in the context of IPV. We aim to test this proposed model using structural equation modelling (SEM) in the present study. Positive mental health is defined using Keyes conceptualization of mental health and encompasses positive emotional, psychological, and social well-being (Keyes, 2002). In our model, social support is defined as support from family and/or friends or support from neighbors (community). To determine if area deprivation level and ethnicity influence the associations between social support and positive mental health, subgroup analyses were conducted. We also explore if the relationships

between social support and positive mental health was the same for women who had experienced severe or recent IPV.

METHODS

Participants

This study was a secondary data analysis. Data was taken from the 2019 New Zealand (NZ) family violence study/He Koiora Mataporore (2017-2019), a quantitative cross-sectional survey carried out with 2,877 men and women (Fanslow, Gulliver, Hashemi, Malihi, & McIntosh, 2021). For the response rate of this study, participants represented over 60% of eligible individuals (63.7% women and 61.3% men). The questionnaire developed for the World Health Organization "Multi-Country Study on Women's Health and Domestic Violence against Women" was used (García-Moreno, Jansen, Ellsberg, Heise & Watts, 2005).

Procedure

Data collection was conducted in Auckland, Northland, and the Waikato (regions of the upper North Island). Random sampling was conducted using primary sampling units based on mesh-block boundaries used by Statistics New Zealand. Starting points were randomly selected households, following which every second and sixth house was selected. Data was collected through face-to-face interviews with answers recorded on a tablet.

Eligibility criteria included: age 16 and over, ability to speak conversational English, lived in the household for one month or more, and slept in the house for four or more nights a week on average. In households with more than one eligible participant, one participant was randomly selected. Non-residential and short-term residential properties, rest homes, retirement villages, people without a home and those in prisons were excluded. Only one randomly selected person per household was interviewed, and interviews were conducted in private with no one over the age of two years old present. Safety guidelines for conducting

research on violence against women were followed (World Health Organization, 2001). Participants provided written informed consent, and after the interview all participants were provided with a list of support agencies, regardless of disclosure status. Ethics approval was received from the University of Auckland Human Participants Ethics Committee (reference number 2015/018244). For more details on the methods, see Fanslow et al. (2021). Participants who completed interviewers were entered into a draw to receive a grocery voucher.

Study Sample

For the current study data were restricted to a sub-sample of 453 women aged 16 and over who indicated that they had experienced at least one form of IPV (physical and/or sexual) in their lifetime or the past twelve months (current). Women who said yes to any of the below items were included. To measure physical IPV, participants were asked, *'Has any partner ever slapped you or thrown something at you that could hurt you?' 'Pushed or shoved you or pulled your hair?' 'Hit you with their fist or something else that could hurt you?' 'kicked, dragged, or beaten you up?' 'choked or burnt you on purpose?' 'threatened or actually used a gun, knife, or other weapon against you?'*

To measure sexual IPV, participants were asked, *'Has any partner ever forced you to have sexual intercourse when you did not want to? For example, by threatening you or holding you down,' 'Did you ever have sexual intercourse when you did not want to because you were afraid of what your current or any other partner might do if you refused?' 'Did your current partner or any other partner ever force you to do anything else sexual that you did not want or that you found degrading or humiliating?'.* All IPV items were scored as yes/no.

Measures

Demographics: Age. Age was categorised in the following age bands: 16-29 years, 30-49 years, 50-69 years, and 70+ years. *Ethnicity.* Ethnicity was categorised as Māori, Pasifika, Asian, MELAA (Middle Eastern, Latin American, and African), and European.

Area Deprivation Level. Deprivation was measured according to the New Zealand Indices of Multiple Deprivation (IMD) (Exeter, Zhao, Crengle, Lee & Browne, 2017). This instrument covers seven domains of deprivation, including employment, income, crime, housing, health, education, and geographical access. Study participants were categorised as living in areas that were classified as least deprived, moderately deprived, and most deprived.

Food Security. Participants were asked, *'Do you ever worry about not having enough money to buy food?.'* Responses were categorised as 'worried at some point' (occasionally, sometimes, often, and all the time) and 'never worried.' *Personal Income*. Participants were asked, *'Do you personally earn more or less than $50,000 per year?'* Binary response options included 'Less than $49,999' and 'More than $50,000.' *Employment Status.* Participants were asked, *'What is your main daily occupation? Do you earn money by yourself?'* Response options included, 'Employed,' 'Retired,' 'Student,' 'Housework,' and 'Not Working.' *Educational Attainment.* Participants were asked, *'What is the highest level of education that you achieved?'* Responses included, 'Primary', 'Secondary Qualifications' and 'Higher'. Responses of primary or secondary were combined to the category of 'Primary/Secondary' to create a binary measure for educational attainment. Recency: If participants answered yes to any of the physical or sexual IPV questions and indicated that the IPV occurred within the past 12 months, this was categorised as 'recent IPV' versus lifetime IPV. *IPV Severity* was measured for physical IPV and was categorised as follows*: 'moderate severity'* was classified by responses to the following questions: *'Has any partner ever…. slapped you or thrown something at you that could hurt you?', '...pushed or shoved you or pulled your hair?'*. *'Severe violence'* was defined as experience of *'...hit you with their first or with something else that could hurt you?' '...kicked, dragged, or beaten you up?' '... choked or burnt you on purpose? '... threatened to use or actually used a gun, knife, or other weapon against you?'* (World Health Organization, 2005). Any act of sexual violence was classified as severe.

Mental Health. The Mental Health Continuum-Short Form (MHC-SF) was used to assess positive mental health for this sample (Keyes, 2002). The MHC-SF has been used across many studies worldwide and in various cultural contexts, resulting in an abundance of evidence to support its use, validity, and reliability (Perugini et al., 2017; Lim, 2014; Petrillo et al., 2015; Karaś, Cieciush & Keyes, 2014; Keyes et al., 2008; Joshanloo et al., 2013; Pir et al., 2021). The MHC-SF consists of 14 items grouped under the categories of Emotional (three items), Psychological (six items), and Social (five items) well-being. *Emotional well-being* includes positive affect and life satisfaction, e.g., *How often did you feel satisfied with life? Psychological well-being* includes self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, and positive relations with others, e.g., *How often did you feel good at managing the responsibilities of your daily life? Social well-being* includes social acceptance, social actualisation, social contribution, social coherence, and social integration, e.g., *How often did you feel that you belonged to a community?* (Keyes, 2007). Respondents rated the frequency with which they experienced these 14 positive aspects of mental health in the past month using a 6-point Likert scale from “Never” = 1 to “Every day” = 6. Higher scores across the items indicated more positive mental health compared to lower scores.

Social Support. Based on knowledge identified across literature and highlighted in the introduction, the variables used to assess sources of social support were: 'support from family/friends' and 'support from neighbours’. See Figure 1. *Family and Friends Support.* To measure family and friends support, participants were asked: "When you need help or have a problem, can you usually count on members of your family for support? (General support) Possible response options were "Yes, No, and Do not know." The latter was treated as a missing value. To measure IPV specific support, if the participant indicated that they had told someone about their partner's behaviour (IPV), they were asked, "Did anyone try to help you?" Responses categorised as 'Family' included: parents, brother or sister, uncle or aunt or partner's

family. A count variable was created, indicating the number of family members who tried to help, ranging from 0 to 5. Responses categorised as 'Friends' included: friends, friends who live nearby, or friends from the workplace. A count variable was created, indicating the number of friends who tried to help ranging from 0 to 3.

Figure 1 about here

Neighbour Support. Neighbour support was measured based on the participant's responses to the following questions: *"Do neighbors in your community generally tend to know each other well?"* The possible response options were "Yes, No, Don't Know/Remember." The latter was treated as a missing value. *"If there was a street fight in your neighborhood, would people generally do something to stop it?"* The possible response options were "Yes, No, Don't Know/Remember." The latter was treated as a missing value. *"If someone in your family suddenly fell ill or had an accident, would your neighbours offer to help?"* The possible response options were "Yes, No, Don't Know/Remember." The latter was treated as a missing value. The responses to neighbour and family/friends support variables were treated as binary variables.

Data Analysis

Structural Equation Modelling (SEM) was the most appropriate method to assess the associations between social support and positive mental health. SEM is a statistical method that combines regression, path analysis, and factor analysis to enable complex modelling of closely related predictors (Sánchez, Budtz-Jorgensen, Ryan & Hu, 2005). SEM uses latent variables to reflect concepts that are not directly observable and takes measurement errors into account (Sánchez et al., 2005; Kline, 2011; Schumacker & Lomax, 2004).

Firstly, descriptive statistics were analysed, and a missing data analysis was carried out, which revealed that the percentage of missing values for most variables were below 10%,

which is the suggested cut off for statistical analyses (Bennett, 2001). Exceptions were one item of Neighbour support ('neighbours will stop a street fight') with 17.4% missing and one item of the MHC-SF ('that our society is becoming a better place for people') with 14% missing. This was largely due to recoding of the "Don't know/Don't remember" values as 'missing'. No further action was taken, and analyses were run using maximum likelihood with missing data. To check that inclusion of missing data did not skew the results, a separate dataset was created, and analyses run where all cases with missing values were deleted. This enabled comparison of results. As the analyses still held strong (i.e., the associations and indices were the same as with the full data set), this gives further confidence in the results of the reported model with the missing values included.

Secondly, confirmatory factor analyses (CFA) were carried out to assess the latent constructs underlying social support and positive mental health. To examine the loading of each of factors, standardised beta coefficients were reported. Parameters were estimated using maximum likelihood with incomplete data. A structural model was then created, exploring the link between social support and positive mental health outcomes. Different fit statistics were examined to determine how well the model was supported by the data. These fit statistics included the most frequently cited: RMSEA, CFI, Gamma Hat index and CMIN/DF. An 'acceptable fit' is when the CFI value is larger than 0.95 (Schermelleh-Engel & Moosbrugger, 2003). A RMSEA value of smaller than 0.05 is an indicator of convergence fit to the analysed data of the model, with values between 0.05 and 0.08 indicating a close to good fit. In terms of Gamma Hat, ≥ .90 indicates an acceptable fit, while ≥ .95 indicates a good fit to the data (Marsh, Hau & Wen, 2004). Values of < 3 indicate acceptable fit for CMIN/DF (Kline, 1998). The assessment of the model also included evaluating individual parameters and path standardised beta coefficients. Reliability of the MHC-SF scale was assessed through Cronbach's Alpha (values of .70 and above considered acceptable internal

consistency) (Nunnally, 1978). Food security was controlled for in the structural model to assess the influence of this variable on mental health.

To determine if area deprivation level influenced the associations between the variables of social support and positive mental health a subgroup analysis was conducted where the SEM model was run within each deprivation level (least, moderate, and most) to assess whether associations changed. Additionally, with over 20% of the sample identifying as Māori, a sub-group analysis was also conducted to explore differences between this group and the European group. Sub-group analyses were also run across IPV severity levels (moderate versus severe) and recency (recent IPV exposure [within the past 12 months] versus lifetime exposure]. Descriptive analyses were conducted with the Statistical Package for the Social Sciences (SPSS) version 26 (IBM Corp, 2019) and CFA and SEM was conducted with AMOS 26 (Arbuckle, 2019).

RESULTS

Sample Demographics.

Sample demographics are summarised in Table 1.

Table 1 about here

Confirmatory Factor Analysis for MHC-SF and Social Support

CFA results for the MHC-SF model showed factor loadings for each of the mental health observed variables ranging from .33 to .80, all significant at $p = .001$. Based on modification indices, one item from SW ("That you belonged to a community") was deleted to improve model diagnostics. The error terms for items 10 and 11 ($\beta = .25$) and items 10 and 12 ($\beta = .30$) were also correlated based on modification indices. This is common practice among other studies of the MHC-SF (e.g., Joshanloo, Jose, & Kielpikowski, 2017). There were strong significant correlations between the variables: EW and PW ($\beta = .82$, $p = .001$),

PW and SW (β = .92, p = .001), and EW and SW (β = .57, p = .001). Model diagnostics indicated a good fit: CFI = .951; RMSEA = .052 (90% CI .040-.063); CMIN/DF =2.20; Gamma Hat = .98. See Figure 2. Despite high correlations between the variables, the three-factor structure of the MHC-SF has the best fit compared to other factor structures (see Pir et al., 2021). Analysis of reliability indicated acceptable fit for each of the dimensions of EW (a= .78), PW (a =.70), SW (a= .74), and the overall MHC-SF (a = .85).

CFA results for the social support variables showed a correlation between Family/Friends support and Neighbour support of β = .28 at p = .04. The factor loadings for the family/friends support and neighbour support variables ranged from .35 to .63. Model diagnostics indicated acceptable fit: CFI=.95; RMSEA=.05(90% CI .015 - .087); CMIN/DF = 2.2; Gamma Hat = .99. See Figure 3.

Figure 2 about here

Figure 3 about here

Structural Model

Figure 4 shows the findings of the SEM model. In addition to the correlations between the error terms e9 and e10 (β = .25) and e9 and e11(β = .31), the error terms between e5 and e18 (β = .25), and e6 and e9 (β = .21) were also correlated based on modification indices. Results of the SEM showed that most facets of social support had significant correlation with each dimension of positive mental health. Although family/friends support was not significantly correlated with emotional wellbeing at the .05 level (β=.22, *p* = .063), it was significantly associated with psychological wellbeing (β=.31, *p* = .026), and social wellbeing (β=.32, *p* = .032). Neighbour support was also significantly correlated with emotional wellbeing (β=.24,

p = .004), psychological wellbeing (β=.20, *p* = .028), and social wellbeing (β=.22, *p* = .029). Support from family/friends showed the highest correlation with positive mental health, in particular with the social wellbeing component. The correlation between family/friends support and neighbour support was β = .34, significant at p = .01. Overall, model diagnostics indicated a good fit (RMSEA=.038 [90% CI .029 - .047], CFI=.95, TLI = .93; Gamma Hat=.98, CMIN/DF = 1.65). Table 2 summarises the standardised and unstandardised beta coefficients, the mean and standard deviation of the variables. Controlling for food security only showed a significant relationship with emotional well-being (β= -.18, *p* = .001), indicating that more food insecurity was associated with poorer emotional well-being for this sample. No other significant associations between food security and positive mental health outcomes were found (Table 3). Most associations for other pathways remained comparable (e.g., the associations of the items measuring MHC-SF and the items measuring friends/family and neighbour support). Results also showed no significant impact of food security on social support variables. For simplicity, Figure 4 does not include food security.

Figure 4 about here

Table 3 about here

Subgroup Analyses

To explore potential differences across ethnic groups, we also ran a multigroup comparison model with separate coefficients for Māori (n = 91) and European (n = 351). An unconstrained multigroup model with coefficients freely estimated was compared to a constrained model with all structural path coefficients constrained to be equal between the

two groups. The chi-square difference test between the unconstrained and the constrained model indicated that there are no significant parameter differences between the two groups, as the p value was not significant (CMIN= 25.468; DF = 19; p = .146).

Similar non-significant results were also found for sub-group analyses across deprivation levels: least deprived (n=110) compared to moderately deprived (n =169) (CMIN = 24.446; DF = 20; p = .223), least deprived compared to most deprived (n=174) (CMIN= 28.759; DF = 20; p = .093), and moderately deprived compared to most deprived (CMIN = 22.231; DF = 20; p = .323) when the same methods were applied.

To explore potential differences across recency of exposure to IPV, we ran a multigroup comparison with separate coefficients for recent exposure to IPV (n= 36), and lifetime exposure to IPV (n=417). The chi-square difference test between the unconstrained and constrained model indicated that there were significant parameter differences between the two groups (CMIN = 37.473; DF = 20; p = .010).

Each individual structural pathway was constrained to identify these differences, and results showed that there was a significant difference in the pathway between neighbor support and emotional well-being, however this difference was only statistically significant for the lifetime exposure group. There were also significant differences in the pathway between N3 (neighbours know each other well) and the neighbour support variable between groups, as well as for some of items of the MHC-SF (items 6,8, 12, 4). However, differences between these pathways are not the focus of the current study aims. See Table 4 for multi-group analysis results for these two groups. Given the smaller sample size of the recent exposure group results should be interpreted cautiously.

Table 4 about here

Additionally, non-significant results were found for sub-group analyses across severity levels: moderate (n= 168) compared to severe (n=239) (CMIN = 21.053; DF = 20; p = .394).

DISCUSSION

First CFA results for the latent variables (i.e., social support and positive mental health) indicated good fit with data. Second, the results support the hypothesis that social support is a vital contributor to positive mental health outcomes following IPV. Notably, of the items measured, the analyses showed that having support from family and friends contributed most strongly to positive mental health, followed by overall neighbourhood support. In particular, the SEM results show that the more social support is available, the more positive mental health women exposed to IPV will have. West and Wandrei (2002) highlight that friends and family are the original 'front-line' helpers that have the potential to support women who experience IPV by complementing the support available from formal help sources. This could be through providing emotional supports, such as love, empathy, and practical supports such as help with finance and seeking information or referrals (Thoits, 1995; Frieling et al., 2018; House, 1981; Unger & Powell, 1980).

Social support was important for women's positive mental health regardless of the severity level of the IPV that they experienced. However, when comparing recent IPV exposure to lifetime IPV exposure there was a difference in the pathway; with neighbor support only associated with emotional well-being for women with lifetime, but not recent exposure to IPV. This suggests that social support may contribute to positive mental health in the longer-term. However, additional factors, such as cessation of violence (safety from IPV) is an important feature of positive mental health. In the absence of safety (i.e., if IPV has been recently experienced), social support alone cannot contribute to positive mental health. These results extend previous findings demonstrating that safety from abuse is also

important for reducing symptoms of mental illness (Escribà-Agüir et al., 2010) and is consistent with Žukauskienė et al.'s (2019) study of social support and posttraumatic growth, which found that women for whom more time had passed since the last incident of IPV had experienced higher rates of posttraumatic growth.

The results also show that social support was an important contributor to positive mental health for everyone in this IPV exposed sample, regardless of their ethnicity and regardless of the area deprivation level in which they lived. However, there may be cultural nuance in how social support is conceptualized and delivered, as different groups have different cultural assets that could be mobilized to provide social support in the context of IPV (Wilson, et al., 2019).

This current study is unique because it explores the relationship between social support and mental health in the context of IPV, as assessed through a validated measure of *positive* mental health. Other studies that have measured 'mental health' following IPV have based their assessments on measuring an absence of mental illness. The finding that with social support, positive mental health is possible in the context of IPV is an important message of hope for women who experience IPV.

Other strengths include the identification of the IPV exposed sample from a representative sample of the population, which resulted in a relatively large sample size, and one that was not restricted to an IPV sample that had sought services. The use of SEM was another strength as it enabled an exploration of complex associations across the social support constructs simultaneously. This resulted in a more comprehensive picture of how social support can promote different aspects of positive mental health for those exposed to IPV, as the interrelated aspects of social support and positive mental health were able to be considered. The use of SEM in this context expands on previous knowledge in this field, and is a stronger statistical method compared to other methods, such as multiple regression. The

subgroup analyses conducted provide confidence that the findings about the importance of social support to positive mental health in the context of IPV are robust across sub-groups within the population.

Limitations of the study are that causality cannot be inferred due to the research's cross-sectional nature. Further sub-group analyses with larger groups who have recent IPV experience would add further confidence to results about the importance of safety. Additionally, cultural aspects of support were not assessed in the questionnaire; future work could benefit from including measures to better capture the ethnic and culturally diverse realities in NZ. Finally, the MHC-SF is a measure of positive mental health over the past month, and therefore does not capture information about respondent's positive mental health trajectory over time; longitudinal studies are required to provide further information about what is needed to promote mental health at different points following IPV. Qualitative research could also shed light on the types and timing of social support that enables development of positive mental health outcomes after IPV.

Practice Implications

Our results indicate that social support is important for women who have experienced IPV to attain positive mental health. As such, it would be beneficial to resource family, friends and neighbors (community) to provide better support for those who have experienced IPV. Machisa and associates (2018) suggest the need for capacity building to resource social networks and enable them to provide more effective social support for women. Goodman and Smyth (2011) discussed the importance of using a 'network oriented' approach to promote the well-being of IPV survivors and indicated that this could sustain benefits for survivors over time.

Additionally, it is also important to consider that friends and family may unintentionally engage in unhelpful or negative responses (e.g., Hadeed & El-Bassel, 2006).

The offering of support from family and friends without judgement or negative reactions is essential to promoting well-being (Goodkind et al., 2003). Interventions could also be targeted at educating friends and family with more positive ways to respond (e.g., Edwards, Waterman, Ullman, Rodriguez, Dardis & Dworkin, 2020; Schackner, Weiss, Edwards & Sullivan, 2017).

As some women may be isolated from their social networks by their violent partners (World Health Organization, 2012) they face barriers in accessing social supports. Therefore, it is crucial to understand how to develop support for women who are still involved with a partner that controls or isolates them. Further, our findings emphasized that safety from IPV is an important pre-requisite before social support can help to promote positive mental health. Active strategies from formal sources of help (e.g., Police or other helping agencies) that have the resources to address the perpetrators behavior are an important part of keeping women safe (Family Violence Death Review Committee, 2014).

Conclusion

In this population-based study of women who reported experience of IPV, social support from family, friends and neighbors was associated with experience of positive mental health. The positive impact of social support was consistent across subgroups of the population. Having no recent experience of IPV (safety) was found to be a pre-requisite to enable social support to enable positive mental health for women who are experiencing IPV. Future interventions should work to ensure safety for women experiencing IPV, and should resource family, friends, and communities to provide these women with social support.

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Table 1

Demographic Characteristics of the IPV Sample

Demographic	Frequency (n)	Percentage (%)
Age		
16-29	43	9.5
30-49	159	35.3
50-69	190	42.1
70+	59	13.1
Ethnicity		
European	351	77.5
Asian	33	7.3
Pasifika	25	5.5
MELAA	9	2
Māori	91	20.1
Deprivation level		
Least deprived	110	24.3
Moderately deprived	169	37.3
Most deprived	174	38.4
Food Security		
Never worried	299	66.3
Worried at some point	152	33.7
Personal income		
Less than $50,000 per year	288	67.4
More than $50,000 per year	139	32.6
Employment status		
Employed	278	61.4
Retired	79	17.4
Student	17	3.8
Housework	45	9.9
Not working	34	7.5
Education attainment		
Primary/Secondary	190	42.2
Higher education	260	57.8
Recent IPV (12months)		
Yes	36	7.9
No	417	92.1
Severity Physical IPV (ever)		
Moderate	168	41.3
Severe	239	58.7

Table 2

Standardised and Unstandardised Beta Coefficients, Mean and Standard Deviation of Variables

			Standardised Estimate	Unstandardised Estimate	S.E.	C.R.	P
EW	<---	Neighbour Support	.243	.856	.298	2.868	.004
PW	<---	Neighbour Support	.198	.508	.232	2.192	.028
SW	<---	Neighbour Support	.216	.741	.338	2.190	.029
EW	<---	FamilyFriends Support	.224	1.464	.786	1.862	.063
PW	<---	FamilyFriends Support	.312	1.487	.666	2.231	.026
SW	<---	FamilyFriends Support	.323	2.054	.960	2.140	.032
Item 1	<---	EW	.797	1.416	.104	13.656	***
Item 2	<---	EW	.726	.963	.075	12.889	***
Item 3	<---	EW	.694	1.000			
Item 5	<---	PW	.509	1.000			
Item 6	<---	PW	.297	.858	.166	5.177	***
Item 7	<---	PW	.520	1.037	.128	8.123	***
Item 8	<---	PW	.449	.741	.101	7.340	***
Item 9	<---	PW	.594	1.161	.133	8.733	***
Item 10	<---	SW	.417	1.000			
Item 11	<---	SW	.553	1.029	.140	7.378	***
Item 12	<---	SW	.485	1.122	.158	7.087	***
Item 13	<---	SW	.702	1.564	.224	6.991	***
Item 4	<---	PW	.722	1.901	.196	9.722	***
N2	<---	Neighbour Support	.619	1.000			
N1	<---	Neighbour Support	.625	1.411	.214	6.603	***
F3	<---	FamilyFriends Support	.346	1.000			
F2	<---	FamilyFriends Support	.246	1.108	.439	2.524	.012
F1	<---	FamilyFriends Support	.458	2.976	1.017	2.926	.003
N3	<---	Neighbour Support	.544	.914	.141	6.472	***

Note. *** = p = .001. N1 = neighbours know each other well; N2 = neighbour offer to help if family fell ill/accident; N3 = neighbour stop street fight; F1 = family help count ; F2 = friends help count; F3 = count on family for support; PW = psychological well-being; SW = social well-being; EW = emotional well-being; Items = items of the MHC-SF measuring each dimension (see methods for more detail)

Table 3

Standardised and Unstandardised Beta Coefficients, Mean and Standard Deviation of Variables (CONTROLLING FOR FOOD SECURITY)

			Standardised Estimate	Unstandardised Estimate	S.E.	C.R.	P
EW	<---	Neighbour Support	.247	.831	.285	2.919	.004
PW	<---	Neighbour Support	.214	.546	.222	2.464	.014
SW	<---	Neighbour Support	.241	.800	.320	2.498	.012
EW	<---	FamilyFriends Support	.206	1.605	.867	1.850	.064
PW	<---	FamilyFriends Support	.276	1.560	.726	2.149	.032
SW	<---	FamilyFriends Support	.300	2.209	1.040	2.124	.034
EW	<---	Food Security	-.176	-.284	.089	-3.185	***
PW	<---	Food Security	-.050	-.058	.069	-.848	.396
SW	<---	Food Security	.019	.029	.096	.306	.759
Item 1	<---	EW	.799	1.414	.102	13.806	***
Item 2	<---	EW	.723	.957	.074	12.946	***
Item 3	<---	EW	.697	1.000			
Item 5	<---	PW	.507	1.000			
Item 6	<---	PW	.302	.877	.167	5.258	***
Item 7	<---	PW	.516	1.030	.128	8.066	***
Item 8	<---	PW	.450	.746	.101	7.347	***
Item 9	<---	PW	.593	1.164	.134	8.716	***
Item 10	<---	SW	.406	1.000			
Item 11	<---	SW	.548	1.047	.145	7.232	***
Item 12	<---	SW	.486	1.155	.165	6.989	***
Item 13	<---	SW	.708	1.622	.236	6.865	***
Item 4	<---	PW	.723	1.908	.197	9.704	***
N2	<---	Neighbour Support	.622	1.000			
N1	<---	Neighbour Support	.608	1.368	.206	6.644	***
F3	<---	FamilyFriends Support	.291	1.000			
F2	<---	FamilyFriends Support	.289	1.551	.578	2.684	.007
F1	<---	FamilyFriends Support	.516	3.994	1.449	2.757	.006
N3	<---	Neighbour Support	.571	.939	.141	6.536	***
FamilyFriends Support	<--->	Food Security	.097	.004	.004	1.156	.248
Neighbour Support	<--->	Food Security	-.115	-.012	.006	-1.865	.062

Note. *** = p = .001. N1 = neighbours know each other well; N2 = neighbour offer to help if family fell ill/accident; N3 = neighbour stop street fight; F1 = family help count ; F2 = friends help count; F3 = count on family for support; PW = psychological well-being; SW = social well-being; EW = emotional well-being; Items = items of the MHC-SF measuring each dimension (see methods for more detail)

Table 4

Sub-group analyses for IPV recency (recent exposure vs. lifetime).

			Recent IPV exposure (12 months)			Lifetime IPV exposure		
Path			**Coefficient (unstandardised)**	***SE***	***p***	**Coefficient (unstandardised)**	***SE***	***p***
EW	**<--**	**Neighbour Support**	**.355**	**.547**	**.516**	**.760**	**.382**	**.046**
PW	<--	Neighbour Support	.544	.236	.021	.544	.236	.021
SW	<--	Neighbour Support	.697	.339	.040	.697	.339	.040
EW	<--	FamilyFriends Support	1.301	.783	.097	1.301	.783	.097
PW	<--	FamilyFriends Support	1.430	.663	.031	1.430	.663	.031
SW	<--	FamilyFriends Support	2.303	.998	.021	2.303	.998	.021
Item 1	<--	EW	1.416	.102	.001	1.416	.102	.001
Item 2	<--	EW	.963	.073	.001	.963	.073	.001
Item 3	<--	EW	1.000			1.000		
Item 5	<--	PW	1.000			1.000		
Item 6	**<--**	**PW**	**7.137**	**16.316**	**.662**	**.803**	**.166**	**.001**
Item 7	<--	PW	1.026	.125	.001	1.026	.125	.001
Item 8	**<--**	**PW**	**5.951**	**13.564**	**.661**	**.696**	**.098**	**.001**
Item 9	<--	PW	1.146	.131	.001	1.146	.131	.001
Item 10	<--	SW	1.000			1.000		
Item 11	<--	SW	1.028	.140	.001	1.028	.140	.001
Item 12	**<--**	**SW**	**13.544**	**39.691**	**.733**	**1.096**	**.160**	**.001**
Item 13	<--	SW	1.589	.227	.001	1.589	.227	.001
Item 4	**<--**	**PW**	**12.525**	**28.307**	**.658**	**1.856**	**.192**	**.001**
N2	<--	Neighbour Support	1.000			1.000		
N1	**<--**	**Neighbour Support**	**.496**	**.217**	**.022**	**1.565**	**.247**	**.001**
F3	<--	FamilyFriends Support	1.000			1.000		
F2	<--	FamilyFriends Support	1.233	.470	.009	1.233	.470	.009
F1	<--	FamilyFriends Support	3.259	1.113	.003	3.259	1.113	.003
N3	<--	Neighbour Support	.940	.147	.001	.940	.147	.001

Note. All coefficients are un-standardised. Unconstrained paths (those that differed significantly between groups) are in bold. All other paths are constrained to equality between groups.

Figure 1

Proposed Theoretical Model of Social Support and Positive Mental Health in an IPV sample.

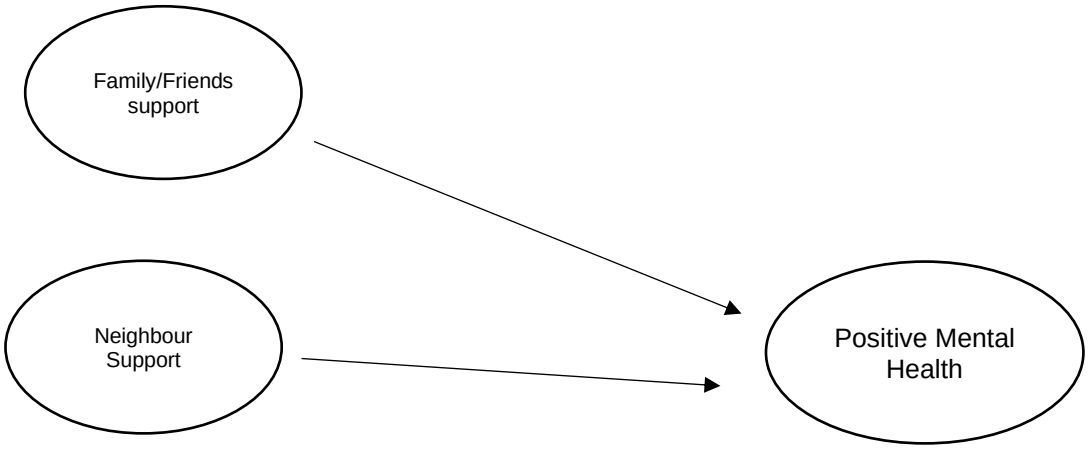
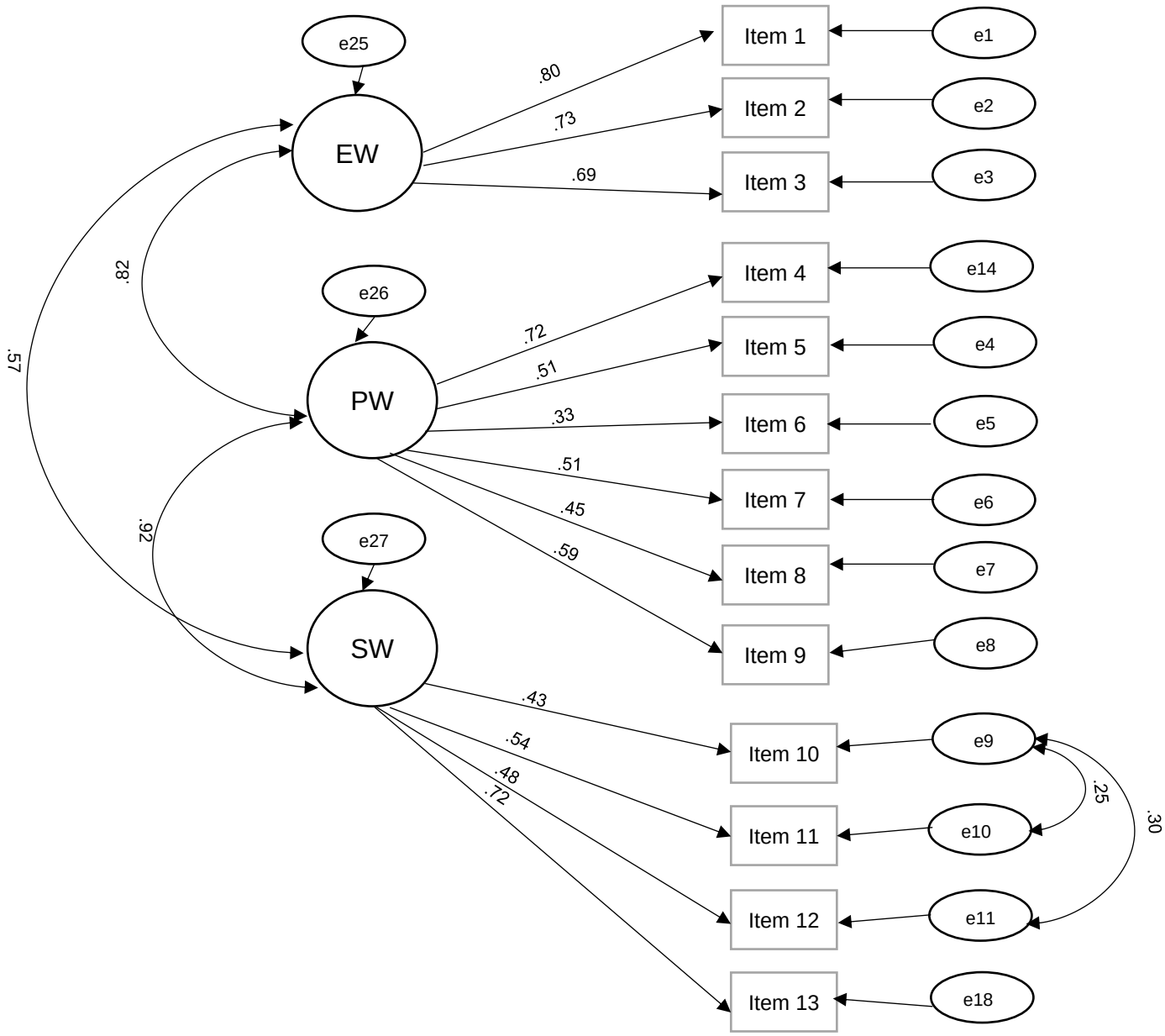


Figure 2

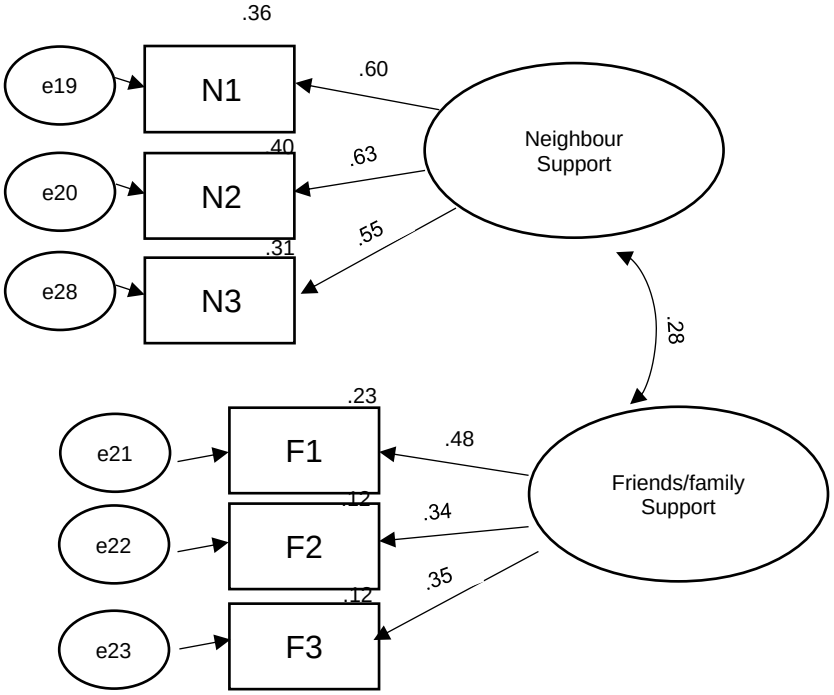
Confirmatory Factor Analysis of the MHC-SF Model



Note. PW = Psychological Well-being; SW = Social Well-being; EW = Emotional Well-being; Items = items of the MHC-SF measuring each dimension (see methods for more detail); e = error term

Figure 3

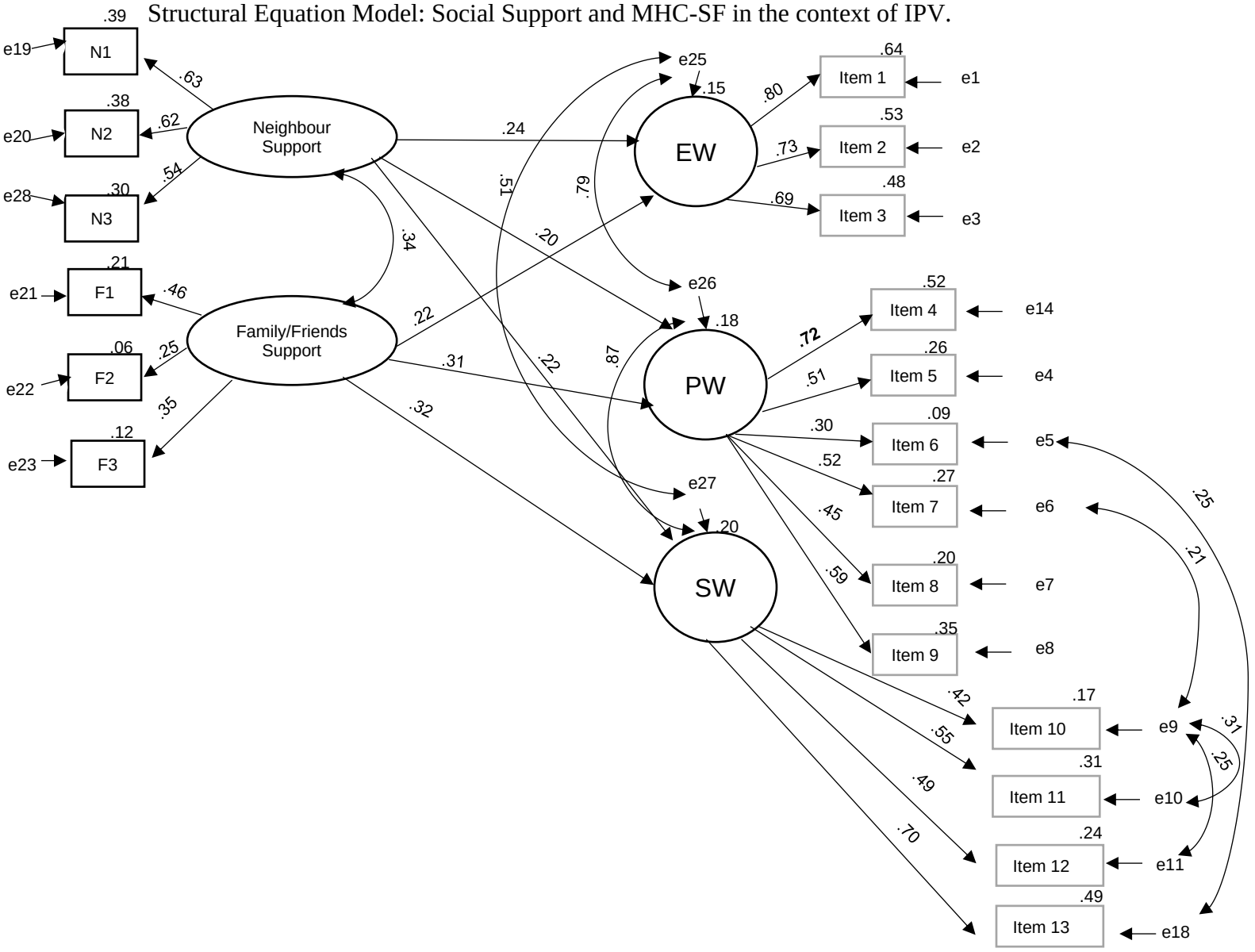
Confirmatory Factor Analysis of the Social Support variables.



Note. N1 = neighbours know each other well; N2 = neighbour offer to help if family fell ill/accident; N3 = neighbour stop street fight; F1 = family help count ; F2 = friends help count; F3 = count on family for support; e = error term.

Figure 4

Structural Equation Model: Social Support and MHC-SF in the context of IPV.



Note. Beta coefficients are standardised path coefficients. RMSEA=.038 (90% CI .039-.047), CFI=.95, Gamma Hat=0.98; CMIN/DF = 1.65. F1 = family help count; F2 = friends help count; F3 = family support broad; N1 = neighbours know each other well; N2 = neighbour offer to help if family fell ill/accident; N3 = neighbour stop street fight; PW = psychological well-being; SW = social well-being; EW = emotional well-being; e = error term. IPV = intimate partner violence. All pathways are significant at the $p \leq 0.05$ level, except for the family/friends support and EW pathway. See Table 2.

BIO STATEMENTS

Setayesh Pir

Setayesh Pir is a final-stage Doctoral Candidate in the School of Population Health at the University of Auckland NZ. Her research is based in social and community health, with a particular focus on sexual violence discourses, intimate partner violence, and promotion of mental health.

Ladan Hashemi

Ladan Hashemi, PhD, is a Research Fellow at the School of Population Health, University of Auckland. Her research activities are in the areas of public health with a focus on child and family health and well-being, and she has expertise in big data analytics.

Pauline Gulliver

Pauline Gulliver, PhD, is an Honorary Senior Research Fellow at the School of Population Health, University of Auckland. Pauline has also been involved with research measuring the long-term outcomes of assault in pregnancy, exploring risk factors for suicidal ideation in women who have experienced violence, and understanding dynamics associated with family violence deaths.

Tracey McIntosh

Tracey McIntosh, PhD, MNZM, is Ngāi Tūhoe and is Professor of Indigenous Studies and Co-Head of Te Wānanga o Waipapa (School of Māori Studies and Pacific Studies) at the University of Auckland. Her recent research focused on incarceration (particularly of Māori and Indigenous peoples) and issues pertaining to poverty, inequality and social justice.

Janet Fanslow

Janet Fanslow, PhD, MNZM, is an Associate Professor at the School of Population Health, University of Auckland, and Co-Director of the New Zealand Family Violence Clearinghouse. She has been engaged in violence prevention research since 1989 and has led two population-based studies on the prevalence and health consequences of violence.