

ORIGINAL ARTICLE

A structural equation model of factors influencing intimate partner violence victimization and health outcomes among men who have sex with men in Bangkok, Thailand

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ABSTRACT

Intimate partner violence (IPV) victimization is a serious public health problem. Factors influencing intimate partner violence among men who have sex with men (MSM) are not well understood in the Asian context where a powerful patriarchal system exists. In order to understand these factors, this study aimed to develop and test a structural equation model (SEM) of factors influencing intimate partner violence victimization and the resulting health outcomes. Data were collected from 382 male couples, who were registered as members of the Rainbow Sky Association of Thailand. The SEM was developed using AMOS version 24.0. The findings showed that the model fits the empirical data very well ($\chi^2/df = 1.09$, p -value > 0.05, GFI = 0.975, RMSEA = 0.015) and found that 1) Intimate partner violence victimization among MSM was directly influenced by the variables of the greatest effect, younger age followed by open sexual orientation; 2) Physical health outcomes were directly influenced by presence in a risky community and history of family violence; 3) Psychological health outcomes were directly influenced by permissive parenting style, and 4) Both physical and mental health outcomes were indirectly influenced by younger age and open sexual orientation. The results suggest that intimate partner violence prevention programs among young MSM should be implemented at an early age, particularly targeting those with a history of family violence, substance abuse, low education and those living in risky communities. Authoritative parenting styles and stigmatization are also matters of concern.

Key words:

violence among MSM; intimate partner violence; violence consequences

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INTRODUCTION

Intimate partner violence (IPV) victimization is a serious public health problem emerging worldwide. IPV is defined as any behavior within an intimate relationship that causes physical, psychological, or sexual harm to those involved in the relationship.¹ It can occur in opposite-sex or same-sex couples and can range from one incident to a progressing pattern of violence.

A Thai study showed that one-third of Thai men who have sex with men (MSM) were victims of fraud, homicide or rape by their partners.² Presently, MSM experience abuse at a rate resembling that of heterosexuals.³ Furthermore, IPV victims among MSM report health problems such as depressive symptoms, suicidal ideation, and sexually transmitted diseases (STDs).⁴ Although some countries have a high prevalence of IPV, most research done in Thailand has focused on IPV in heterosexual pairings because in the Thai cultural context, same-sex couples have only recently been accepted legally. However, according to the Thai constitutional court, same-sex couples do not have the same rights as heterosexual counterparts. For instance, welfare rights are unfair to heterosexual couples. However, same-sex couples wish for the same benefits from state welfare as well as tax deductions.⁵ Nevertheless, relatively few studies have been found on same-sex couples.⁶

Masculine characteristics have dominated throughout the history of the Thai patriarchal system. Being a tough male has been viewed most favorably. Being gay or engaging in same-sex relationships is deemed unacceptable behavior. It is considered a stigma and shameful to the family. Some parents carry out corporal punishment when their child has chosen to live openly as MSM, as it is considered as misconduct or a result of bad merit. Consequently, MSM are inclined to

hide their sexual orientation from their family members.⁷⁻⁸

As a result, the incidence of IPV among MSM is prone to being kept secret. The lack of attention to IPV among MSM can pose a significant threat in terms of both physical and mental health problems among MSM, whereby one of those common health problems includes sexually transmitted diseases (STDs).⁹

A review of the literature shows that demographics, interpersonal relationships, community and societal factors influence an individual's risk of experiencing IPV.¹⁰ These factors are associated with physical, emotional and sexual abuse in couples (younger age, lower education, lower income, history of family violence).¹¹ Although there have been some IPV studies in Thailand, little is known about factors that influence IPV victims and health outcomes among MSM in the Thai context, which is considered a male dominant society.¹² Thais believe that being masculine is the best trait of a leader and generally leadership positions are predominantly reserved for men. On the other hand, alternative genders tend to be devalued and oppressed. There are multiple factors influencing IPV, the ecological framework is based on evidence that no single factor can explain why some people or groups are at higher risk of interpersonal violence, while others are more protected from it. This framework views interpersonal violence as the outcome of interaction among many factors at four – levels such as the individual, the relationship, the community, and the societal. Accordingly, this study applied the ecological framework for understanding interpersonal violence developed by the World Health Organization to analyze the factors that influence violence and health problems among MSM residing in the context and culture of Thailand.¹⁰

The objectives of this study are to develop and test the SEM of factors influencing IPV victims and health outcomes among MSM. It is expected that

the results of this study can be used to analyze the factors influencing violence victims, and as a guideline for the development of MSM violence prevention programs appropriate to the context of Thailand. Ultimately, the results of this research study could contribute to improving the quality of people's lives in the future.

METHODS

Study design and Sample size

This is a cross-sectional quantitative study. The sample size was calculated using Daniel's formula.¹³ The participants consisted of 382 MSM aged 18 years or older who were members of the Rainbow Sky Association of Thailand (RSAT) in Bangkok.

Non-probability sampling, specifically the snowball-sampling technique was used in the study as MSM would gather naturally and had a special trust amongst their group. RSAT was used as the starting point for the first round of the snowball sampling technique which included 70 MSM who worked as the staff at RSAT.

Data collection was done after ethical approval. MSM who had cohabited with partners for more than 6 months were eligible according to the inclusion criteria to answer the 30-minute questionnaire and received a 50-baht compensation. The participants in the first round would be asked to suggest two eligible MSM. In the second round, there were 140 MSM proposed from the first-round participants and again were asked to suggest two eligible MSM. In the third round, there were 172 MSM suggested from through the second round. Unfortunately, 108 MSM were not eligible for the study as they had no contact number. As a result, there were 382 MSM in this study.

The instrument was a set of self-administered questionnaires consisting of 10 sections, according to the ecological

framework for understanding violence. The individual level section consisted of demographic characteristics and the attitude toward IPV.¹⁴ The relationship level section consisted of the history of family violence, and the parenting style,¹⁵ and the community level section included the risky community factors.¹⁶ The societal level comprised the stigmatization,¹⁷ the experience of homophobic discrimination,¹⁸ and the Outness Inventory.¹⁹ Finally, the revised Conflict Tactic Scale (CTS)²⁰ and the IPV health problem consequences questionnaire²¹ were included

All questionnaires were validated by 3 experts in violence, family and community health who rated the agreement of the questions that reflected operational definitions. The Content Validity Index (CVI) was more than 0.8. The questionnaires consist of 5 parts with Cronbach's Alpha Coefficients indicating reliability of 0.94, 0.88, 0.78, 0.93, and 0.89 respectively.

Analytical statistical calculations employed a Structural Equation Model (SEM), which was used after all assumptions were met, to examine and verify the etiological model of factors influencing IPV victimization and health outcomes among MSM in Thailand by applying the AMOS 24.0 program with no missing data. The results were analyzed at a significance level of 0.05. Descriptive statistics were used to analyze participants' demographic characteristics and variable features.

RESULTS

Prevalence of IPV victims' patterns

Table 1 shows 82.9% of the participants reported IPV in the last 12 months. Most participants (77.5%) reported emotional abuse. More than half of the participants reported physical abuse (58.1%) and sexual abuse (57.3%).

Table 1. Prevalence of IPV victims' pattern (n=382)

	IPV (%)	No IPV (%)
Participants	317 (82.9)	65 (17.1)
Emotional abuse	296 (77.5)	86 (22.5)
Physical abuse	222 (58.1)	160 (41.9)
Sexual abuse	219 (57.3)	163 (42.2)

Results of confirmatory factor analysis of IPV victimization

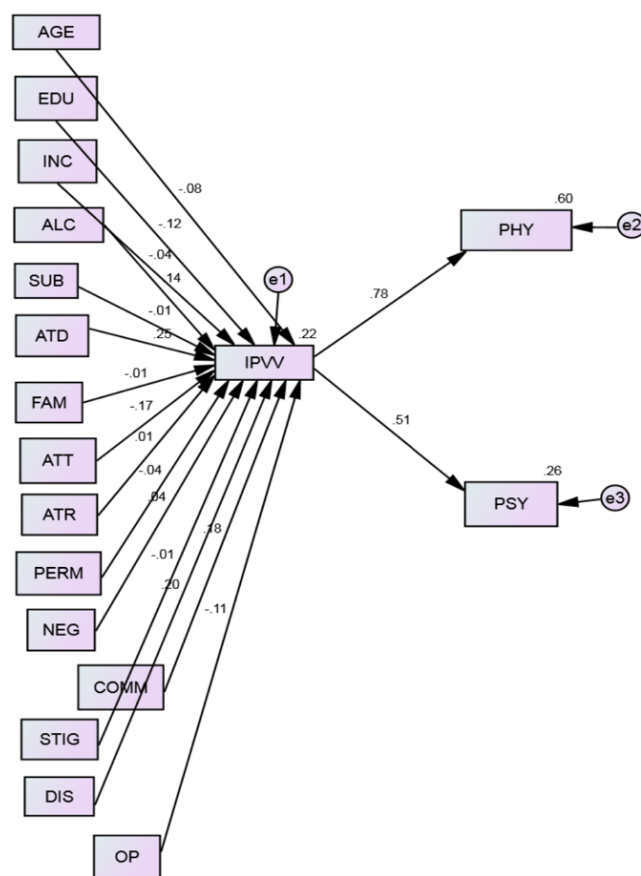
Table 2 and Figure 1 showed that the confirmatory factor analysis with the statistical program for developing predictors of IPV victimization among MSM revealed that $\chi^2_{df=136} = 798.573$, $p < 0.001$. This indicates that the χ^2 value is significantly different from the null hypothesis, with GFI = 0.780, AGFI = 0.724 and RMSEA = 0.113. This result showed that the main hypothesis is not accepted, meaning that the research model does not fit the empirical data.

Therefore, as shown in Table 2 and Figure 1, model modification is needed to

adjust for greater congruence and fit with the empirical data. In this case, the researcher used model modification indices (MI) to modify the research model. The statistical analysis program using the model for developing the predictors of IPV victims revealed that $\chi^2_{df=82} = 89.393$, $p < 0.270$. This indicates that the χ^2 value is not significantly different from the null hypothesis, with GFI = 0.975, AGFI = 0.948 and RMSEA = 0.015. This result showed that the main hypothesis is accepted, meaning that the research model fits the empirical data.

Table 2. Indices of confirmatory factor analysis of IPV victimization

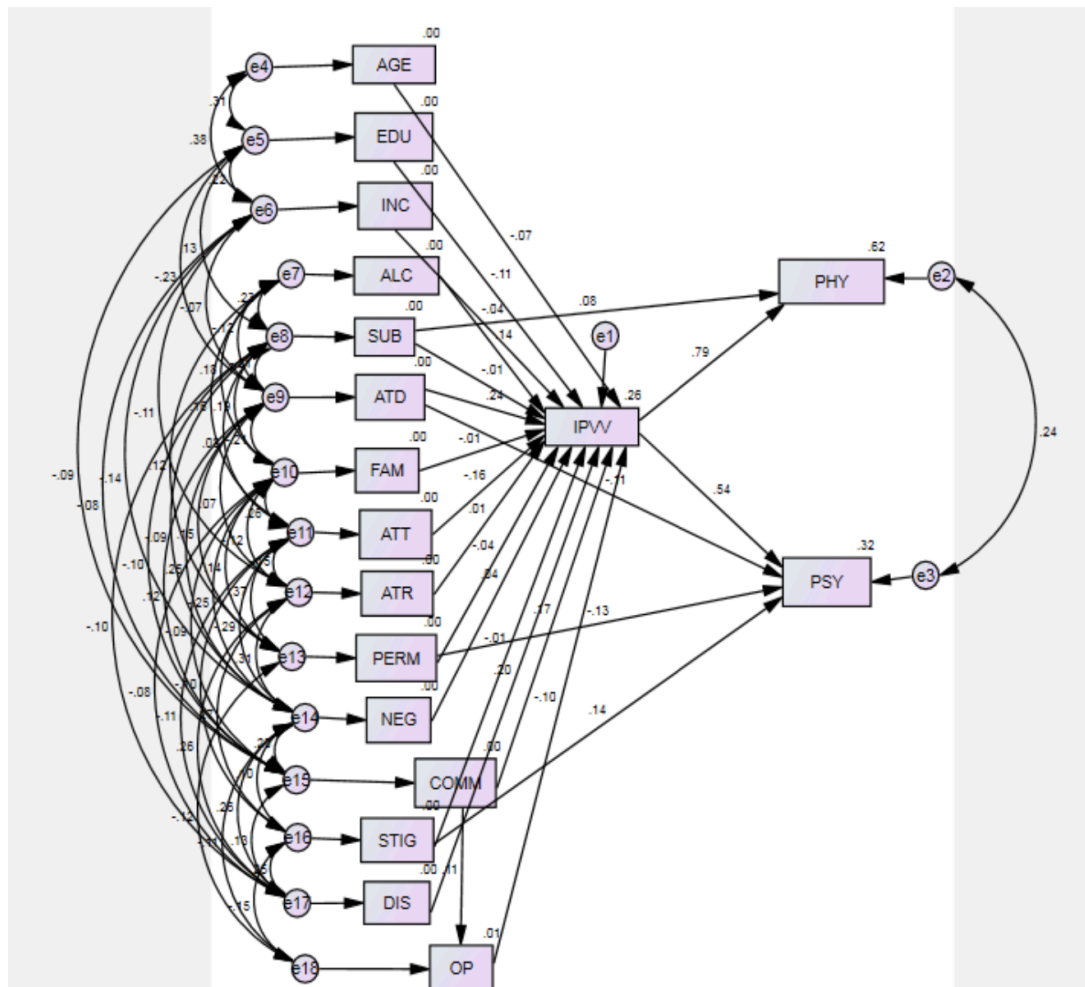
Indices	Criteria	Before model modification		After model modification	
		Statistic	Result	Statistic	Result
p -value of χ^2_{df}	> 0.05	$\chi^2_{df=136} = 798.573$, $p < 0.001$.	No	$\chi^2_{df=82} = 89.393$, $p < 0.270$	Yes
CMIN/df	< 2	5.872	No	1.090	Yes
GFI	≥ 0.90	0.780	No	0.975	Yes
AGFI	≥ 0.90	0.724	No	0.948	Yes
NFI	≥ 0.90	0.440	No	0.937	Yes
IFI	≥ 0.90	0.486	No	0.994	Yes
CFI	≥ 0.90	0.479	No	0.994	Yes
RMSEA	< 0.05	0.113	No	0.015	Yes



Note: $\chi^2_{df=136} = 798.573$, $p < 0.001$, CMIN/df=5.872, GFI=0.780, AGFI=0.724, RMSEA=0.113.

AGE = age, EDU = Education, INC = Income, ALC = alcohol, SUB = substance used, ATD = Attitude toward intimate partner violence, FAM = prior family violence, ATT = authoritative parenting, ATR = authoritarian parenting, PER = permissive parenting, NEG = neglect parenting, COM = community at risk, STIG = stigmatization, DIS = Discrimination, OP = openness sexual orientation, IPVV = intimate partner violence victimization, PHY = physical health problem, PSY= psychological health problem

Figure 1. Model of IPV victimization.



Note: $\chi^2_{df=82} = 89.393$, $p > 0.05$, CMIN/df=1.090, GFI=0.975, AGFI=0.948, RMSEA=0.015.

AGE = age, EDU = Education, INC = Income, ALC = alcohol, SUB = substance used, ATD = Attitude toward intimate partner violence, FAM = prior family violence, ATT = authoritative parenting, ATR = authoritarian parenting, PER = permissive parenting, NEG = neglect parenting, COM = community at risk, STIG = stigmatization, DIS = Discrimination, OP = openness sexual orientation, IPVV = intimate partner violence victimization, PHY = physical health problem, PSY= psychological health problem

Figure 2. Model of IPV victimization after modification

The result of model modification of IPV victims

The confirmatory factor analysis revealed that the researched model did not fit the empirical data. The researched model was modified according to model MI, and it showed that the researched model fit better with empirical data in Figure 2.

Standardized coefficient regression

According to the details of the model in Figure 2, it was found that

1. IPV victimization was affected by age, education, income, alcohol used, substance used, positive attitude toward IPV, history family violence, being raised under authoritative, authoritarian, permissive and neglectful parenting, living

in a risky community, the feeling of stigmatization, perception of homophobic discrimination, and open sexual orientation at -0.073, -0.114, -0.039, 0.141, -0.013, 0.243, -0.013, -0.162, 0.013, -0.040, 0.039, 0.171, -0.014, 0.195 and -0.103, respectively. The regression weight altogether is counted as a good level.

2. Psychological health problems were affected by a positive

attitude toward IPV, being raised under permissive parenting, the feeling of stigmatization and IPV victims at -0.106, -0.130, 0.143 and 0.535, respectively.

3. Physical health problems were affected by substance use and being an IPV victim at 0.081 and 0.792, respectively.

Table 3 Direct effects (DE) indirect effects (IE) total effects (TE) and squared multiple correlation (R^2)

Dependent variable	Independent variables																	total
	EF	AGE	EDU	INC	ALC	SUB	ATD	FAM	ATT	ATR	PER	NEG	COM	STIG	DIS	OP	IPVV	
IPVV	DE	-0.073	-0.114	-0.039	0.141	-0.013	0.243	-0.013	-0.162	0.013	-0.04	0.039	0.171	-0.014	0.195	-0.103	0.00	0.231
	IE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.012	0.00	0.00	0.00	0.00	-
	TE	-0.073	-0.114	-0.039	0.141	-0.013	0.243	-0.013	-0.162	0.013	-0.04	0.039	0.159	-0.014	0.195	-0.103	0.00	0.012
	R^2	0.26																0.219
PHY	DE	0.00	0.00	0.00	0.00	0.081	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.792	0.873
	IE	-0.058	-0.09	-0.31	0.111	-0.011	0.192	-0.010	-0.128	0.011	-0.032	0.031	0.126	-0.011	0.155	-0.082	0.00	-
	TE	-0.058	-0.09	-0.31	0.111	0.07	0.192	-0.010	-0.128	0.011	-0.032	0.031	0.126	-0.011	0.155	-0.082	0.792	0.106
	R^2	0.62																0.767
PSY	DE	0.00	0.00	0.00	0.00	0.00	-0.106	0.00	0.00	0.00	-0.130	0.00	0.00	0.143	0.00	0.00	0.535	0.442
	IE	-0.039	-0.061	-0.021	0.075	-0.007	0.130	-0.007	-0.087	0.007	-0.022	0.021	0.085	-0.008	0.105	-0.055	0.00	0.116
	TE	-0.039	-0.061	-0.021	0.075	-0.007	0.024	-0.007	-0.087	0.007	-0.152	0.021	0.085	0.135	0.105	-0.055	0.535	0.558
	R^2	0.32																

Note. AGE = age, EDU = Education, INC = Income, ALC = alcohol, SUB = substance used, ATD = Attitude toward intimate partner violence, FAM = prior family violence, ATT = authoritative parenting, ATR = authoritarian parenting, PER = permissive parenting, NEG = neglect parenting, COM = community at risk, STIG = stigmatization, DIS = Discrimination, OP = openness sexual orientation, IPVV = intimate partner violence victimization, PHY = physical health problem, PSY= psychological health problem

R Square of the Model

1. The effects of age, education, income, alcohol used, substance use, positive attitude toward IPV, prior family violence, being raised under authoritative, authoritarian, permissive, and neglectful parenting, living in a risky community, feeling stigmatization, perception of homophobic discrimination, and open sexual orientation yielded an R^2 value of 0.26 for the model, which indicates that when all independent variables are included in the equation, it could predict IPV victims with 26% accuracy.

2. The effect from IPV victims has an R^2 value of 0.62 for the model which indicates the equation could predict physical health problems with 62% accuracy.

3. The effect from IPV victims has an R^2 value of 0.32 for the model, which implies the equation could predict psychological health problems with 32% accuracy.

Structural equation modeling: direct effects, indirect effects and total effects

The effect size of variables on IPV victimization was analyzed by SEM using effect coefficients.

IPV victimization. The results revealed that age, education, income, substance use, history of family violence, being raised under authoritative and permissive parenting, the feeling of stigmatization and open sexual orientation had a negative effect on IPV victimization with path coefficients of -0.073, -0.114, -0.039, -0.013, -0.013, -0.162, -0.04, -0.014 and -0.103, respectively. Alcohol use, positive attitude toward IPV, authoritarian and neglectful parenting, living in a risky community, and homophobic discrimination had a positive effect on IPV victimization with path coefficients of 0.141, 0.243, 0.013, 0.039, 0.171, and 0.195, respectively. Meanwhile, living in a risky community had both direct and indirect effects on IPV victimization with a

path coefficient of 0.159 (TE=DE (0.171) + IE (-0.012)).

Physical health problems. The result revealed that substance use and being an IPV victim had a positive effect on physical health problems with path coefficients of 0.081 and 0.792, respectively. Meanwhile, substance use had both direct and indirect effects on physical health problems with a path coefficient of 0.07 (TE=DE (0.081) + IE (-0.011)).

Psychological health problems. The result revealed that a positive attitude toward IPV, permissive parenting, stigmatization, and being an IPV victim had effects on psychological health problems with path coefficients of -0.106, -0.130, 0.143 and 0.535, respectively. Attitude toward IPV, permissive parenting, and feeling of stigmatization had both direct and indirect effects on psychological health problems with path coefficients of 0.024 (TE=DE (-0.106) + IE (0.130)), -0.152 (TE=DE (-0.130) + IE (-0.022)) and 0.135 (TE=DE (0.143) + IE (-0.008)).

The SEM of IPV victimization from the effects of age, education, income, alcohol use, substance use, positive attitudes toward IPV, prior family violence, authoritative, authoritarian, permissive and neglectful parenting, living in a risky community, feelings of stigmatization and open sexual orientation could be written as follows.

$$IPVV = -0.073 \times AGE - 0.114 \times EDU - 0.039 \times INC + 0.141 \times ALC - 0.013 \times SUB + 0.243 \times ATD - 0.013 \times FAM - 0.162 \times ATT + 0.013 \times ATR - 0.04 \times PER + 0.039 \times NEG + 0.171 \times COM - 0.014 \times STIG + 0.195 \times DIS - 0.103 \times OP$$

This equation showed an R^2 value of 26% for the model when predicting IPV victimization.

SEM of physical health problems from the effects of substance use and IPV victimization could be written as follows.

$$PHY = 0.081 \times SUB + 0.792 \times IPVV$$

This equation showed an R^2 value of 62% for the model in predicting IPV victimization.

The SEM of psychological health problems resulting from the effects of negative attitudes toward IPV, permissive parenting, feelings of stigmatization and IPV victimization could be written as follows.

$$\text{PSY} = -0.106 \times \text{ATD} - 0.130 \times \text{PER} + 0.143 \times \text{STIG} + 0.535 \times \text{IPVV}$$

This equation showed an R^2 value of 32% for the model in predicting IPV victimization.

DISCUSSION

The SEM showed that a positive attitude toward IPV, alcohol use, living in a risky community, and homophobic discrimination have positive effects on IPV victims, which conforms with the ecological framework for explaining interpersonal violence at the individual level, community level, and societal level. The finding is similar to previous studies which indicated that IPV victims are associated with an acceptance of violence and a positive attitude toward IPV.²⁹⁻³⁰ In addition, MSM who experience homophobic discrimination tend to experience more physical and sexual IPV victimization.³¹ However, homophobic discrimination is associated with both perpetrators and victimization significantly.¹⁷

People who live in communities at risk experience more from IPV and negative health outcomes, which conforms with the ecological framework for explaining interpersonal violence at the community level and in line with the results of this study where most MSM who live in moderate to high-risk communities are more likely to be a victim³². Besides this, alcohol use is also a factor associated with experiencing IPV victimization. Substance use was another factor associated with being an IPV victim among MSM and it has

both direct and indirect effects on physical health problems. The results are consistent with those of a previous study, which indicated the amount of substance use was associated with being an IPV victim among MSM.²⁷

The SEM showed that stigmatization had a positive effect as well as both direct effect and indirect effects on psychological health problems, which conforms with the ecological framework for explaining interpersonal violence at the societal level. This can explain why MSM who experience the feelings of stigmatization might then suffer depression or anxiety. This is supported by Meyer (1995) who posits that sexual minorities are subject to chronic stressors, that go above and beyond those experienced by the general population because the stigmatization they experience is associated with their minority status.³³

A high degree of openness about one's sexual orientation also directly influences IPV victims, which conforms with the ecological framework for explaining violence at the societal level. This result is supported by Carvalho et al. who found that IPV victimization was associated with openness about one's sexual orientation.¹⁷ Furthermore, Bartholomew et al. found that the more open the sexual orientation, the higher the number of IPV victims.²⁷

Being an IPV victim has a positive effect on both physical and psychological health problems. This result is supported by previous studies that found that MSM victims report sexually transmitted infections, suicidal ideation, and depression.⁹ In addition, IPV victimization is associated with depression and anxiety as well.³⁴

RECOMMENDATIONS

Promoting an authoritative parenting style fosters confidence in children to express their sexual orientation,

which would be a protective factor against victimization as they can exercise more assertiveness to self-protect. However, it's imperative to promote healthy relationship skills and bystander intervention techniques to empower individuals to recognize signs of abuse and intervene safely. Moreover, school and community education programs to raise awareness about unacceptable IPV including the cycle of IPV would also be another protective factor besides acceptance and equal treatment of MSM through media campaigns, social media advocacy, and community events. Finally, careful consideration must be given to how IPV prevention should be incorporated as a core element into programs that seek to enhance MSM well-being with better physical and psychological health outcomes. IPV victims should receive timely health evaluations.

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