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Work-Family Conflict and Intimate Partner Violence in the South Korean Military: Mediating Role of Aggression and Buffering Effect of a Counseling Resource

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Abstract The objective of the current study was to identify the relationship between work-family conflict (WFC) and intimate partner violence (IPV) among military personnel, and verify the mediating role of aggression and buffering effect of a counseling resource. A total of 293 married Korean Air Force personnel were surveyed using a self-administered questionnaire; their responses were analyzed with a structural equation model. The major findings were that 36.9 % of respondents have perpetrated IPV, the prevalence of verbal violence was 33.4 % and physical violence was 16.0 %. Aggression mediated the important part of the association between WFC and IPV. Also, presence of a counseling resource attenuated the relationship between WFC and aggression. The findings suggest that it is necessary for the military to build a personnel counseling system to prevent spouse abuse, develop professional counseling services, and accurately identify aggression tendencies among military personnel.

Keywords Spousal ill-treatment · Role conflict · Aggressiveness · Armed forces · Emotional support · Structural equation model

Military personnel in South Korea are vulnerable to work-family conflict (WFC) due to the unique demands of military service. WFC results from incompatible demands from work and family roles (Greenhaus et al. 2006; Greenhaus and Beutell 1985). The concept of work interference with family is described as having three distinct components: strain, behavior, and time-based conflict (Greenhaus and Beutell 1985). Of those mentioned, time conflict is the most prominent among military personnel in South Korea, as, we believe, they do not have enough time to spend with their families. Korea is the world's only divided country, and South Korea and North Korea have remained in a heightened state of combat readiness since a truce in 1953, when overt hostilities ceased. Due to this situation, military personnel in South Korea are on standby at all times, and they routinely work overtime on 24-h shifts. In addition, every year, some military personnel are deployed overseas for training purposes, forcing them to leave their families for extended periods of time (Jeong 2010). Research suggests that separation due to military service negatively affects family relationships and the mental well-being of military personnel, spouses, and children (Campbell et al. 2011; Goff et al. 2007; Lester et al. 2010; Peebles-Kleiger and Kleiger 1994; Renshaw et al. 2008). Work-related strain, and its concomitant potential for strain-based conflict, is inherent in South Korean military jobs (Kim and Lee 2011). This strain comes from responsibilities of personnel in military operations where a single mistake can put the safety of a military unit or even the country at risk. Additional strain in the work lives of South Korean career military personnel is due to military promotion and retirement policies. If not promoted in a timely manner, military personnel are retired early under the mandatory retirement system. Ranks are staffed in a pyramid structure, such that as ranks increase, fewer positions are available (Kim 2010). To avoid forced retirement in their 40s, military personnel make significant efforts towards promotion, which causes enormous tension and fatigue. Finally, with regards to behavior-based conflict, there is a significant difference between behavior that is required by the military and that which is acceptable in family roles. In military roles, personnel are required to follow orders from their superiors and give orders to subordinates. They also

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learn to rely on the use of force when tackling an issue or solving a problem. These patterns of communication and behavior are different from those typically used in the home.

We would like to focus on the effect of WFC among military personnel on their relationships with intimate partners. A recent general household survey found that the WFC level is positively associated with problems in the intimate partner relationship (Presser 2000; Strazdins et al. 2006). Another study showed that WFC among Korean males affects spousal abuse against their female partners (Kim et al. 2008). Few studies have examined family violence, let alone IPV, among military families compared with those of civilians (Rentz et al. 2006). Considering previous findings that domestic violence among military families is more prevalent than in civilian families (Stamm 2009), it is very important to identify how WFC among military personnel may affect IPV in order to prevent domestic violence behaviors.

Efforts to find a short-term intervention solution should be a priority, as it is unlikely that the difficult work situation of military personnel in South Korea will be resolved in the near future. Nevertheless, efforts to mitigate negative relationship consequences of WFC in the long-term should be pursued. Accordingly, it is important to identify a plausible causal mechanism linking WFC to IPV in order to prevent WFC from being expressed as IPV. According to spillover theory, attitudes and behaviors in an area of life can "spillover" to other areas (Staines 1980). Even if the areas of life are divided, attitudes and behaviors in a particular setting may be observed in the other (Greenhaus and Beutell 1985; Staines 1980). Job strain can affect one's family, and satisfaction and peace of mind at home could affect one's work. For instance, work role difficulties have been found to be expressed as aggression in the family (Choi and Paik 2006). Aggression, in the form of anger and hostility, is a direct antecedent of externalized violence (Bartol 2002) and has a positive correlation with violent behaviors (Mehrabian 1997). Since aggression serves as a mediator between the stimulus and the violent behavior (Bushman 1995), an effort to reduce aggression could effectively cut off the pathway that links WFC to IPV. When aggression typically becomes activated in a particular situation (Mischel and Shoda 1998; Stemmler 1997), counseling intervention that teaches one how to cope with WFC could control the increase of aggression.

A review of the literature has produced no evidence of any other study that identifies the relationship between WFC and IPV among military personnel in South Korea. Thus, this study is the first to investigate the association between WFC and IPV among military personnel, and to test a mediating path via aggression and effect modification by availability of counseling resources. The study hypotheses are: 1) there is a positive relationship between WFC and IPV among military personnel, 2) aggression mediates the relationship between WFC and IPV such that WFC augments aggression and aggression in turn increases IPV, and 3) the relationship between WFC and aggression is moderated by the availability of a counseling resource.

Method

Military Personnel Sample

Since the study is about military personnel, the sample would ideally be representative of all military personnel. Though it is best to use an accurate probability sampling method, a purposive sampling method was used in this study because the Korean military would not allow probability sampling since it may reveal privileged information, including configuration of the Korean military force.

A total of eight Korean Air Force units agreed to participate in the study, which was reviewed and approved by the Committee of the Cultural Policy Division in the Republic of Korea Air Force. The male officers and noncommissioned officers were surveyed in groups using a self-administered questionnaire and professional researchers explained and conducted the survey. Given that this study concerns intimate partner violence, the men were first asked if they have been married or have lived with a partner. All the respondents were asked to sign a written informed consent form that explained the survey goals and methods. All the survey respondents were assured that their responses would remain confidential.

The survey was conducted from August 1, 2008 to September 10, 2008, and a total of 293 respondents participated. Table 1 is the demographic characteristics of the respondents. All respondents were married men. Among the respondents, there were 93 officers (31.7 %) and 200 noncommissioned officers (68.3 %). Regarding the age of the respondents, 63.7 % were in the 30s, 18.8 % in the 40s and 9.9 % in the 50s and over. The size of the group aged 50 and over is small due to the retirement rank system in the Korean military. Similar proportions of the sample had high-school, 2-year college, and bachelor's degrees (27–28 %), and a considerable proportion held master's degrees (17.4 %). In terms of time in service, the majority worked for between10 and less than 15 years (41.1 %), 21.2 % worked for between15 and less than 20 years, 9.6 % worked for between 20 and less than 25 years and 18.2 % worked for 25 years or more in the military. Only 1 % of respondents reported that they have worked in the military for less than 5 years (many service members who worked fewer than 5 years were not eligible for the survey since they haven't been married or have not lived with a partner). This military sample can be characterized as relatively well-educated and experienced in military service. 63 % of the survey respondents replied they have a religion and 36.2 % of the respondents replied they do not.

Table 1 Demographic characteristics (*N= 293*)

Variable	Response Category	N (%)
Position	Officer	93(31.7)
	Noncommissioned officer	200(68.3)
Age	20s	22(7.5)
	30s	186(63.7)
	40s	55(18.8)
	50s and older	29(9.9)
Education Level	High school degree	82(28.0)
	2-year college degree	79(27.0)
	Bachelor's degree	81(27.6)
	Master's degree	51(17.4)
Period of military service	5 years or less	3(1.0)
	5 years – less than 10 years	26(8.9)
	10 years – less than 15 years	120(41.1)
	15 years – less than 20 years	62(21.2)
	20 years – less than 25 years	28(9.6)
	25 years or more	53(18.2)
Religion	Protestant	76(25.9)
	Buddhist	59(20.1)
	Catholic	46(15.7)
	Others	6(2.0)
	No religion	106(36.2)

Measures

Intimate Partner Violence The Conflict Tactics Scale (CTS) developed by Straus (1979) was used to measure IPV of career soldiers. CTS measures three separate problem solving behaviors for spousal conflicts: reasoning, verbal violence and physical violence. Because the study focused on verbal violence and physical violence, the 3 item subscale measuring reasoning was excluded. This allays any potential concern that the measure is not unidimensional. All six items measuring verbal violence and the eight items measuring physical violence were used. Verbal violence consists of 'Insulted or swore at the other one', 'Sulked and/or refused to talk about it', 'Stomped out of the room or house', 'Did or said something to spite the other one', 'Threatened to hit or throw something at the other one,' and 'Threw or smashed or hit or kicked something'. Physical violence is harming others physically and it includes 'Threw something at the other one', 'Pushed, grabbed, or shoved the other one', 'Slapped the other one', 'Kicked, bit, or hit with a fist', 'Hit or tried to hit with something', 'Beat up the other one', 'Threatened with a knife or gun,' and 'Used a knife or gun'. CTS uses a 7-point scale from 'never' to 'more than 20 times' but it is usually dichotomized: violence was scored as present or absent (Kalmuss and Straus 1982; Kwong et al. 2003; McCarroll et al. 2010), because its item response distributions are too skewed to apply to structural equation models (Straus 1979). Thus, it was interpreted that violence is present if any violent behaviors have occurred during the past year. The internal consistencies of intimate partner violence combined was Cronbach's alpha=0.668, for verbal violence was alpha=0.652, and physical violence was alpha=0.590. Despite the low alpha coefficients, it is not regarded as a major impediment to use the scale, as they have a meaningful content coverage of verbal and physical violence (Schmitt 1996).

Work-Family Conflict To measure work-family conflict, we used the Work Family Conflict (WFC) scale (Carlson et al. 2000), which measures the conflict between work and family in mutual and multidimensional ways. WFC comprised two directions: work interference with family, and family interference with work. To fit in the goal of the study, only the work interference with family subscale was used. The interference of work with family has nine items and three subordinate dimensions are measured by three items each. Time-based work interference with family is comprised of 'My work keeps me from my family activities more than I would like', 'The time I must devote to my job keeps me from participating equally in household responsibilities and activities,' and 'I have to miss family activities due to the amount of time I must spend on work responsibilities'. Strain-based work interference with family is composed of 'When I get home from work I am often too frazzled to participate in family activities/responsibilities', 'I am often so emotionally drained when I get home from work that it prevents me from contributing to my family,' and 'Due to all the pressures at work, sometimes when I come home I am too stressed to do the things I enjoy'. Behavior-based work interference with family consists of 'The problem-solving behaviors I use in my job are not effective in resolving problems at home', 'Behavior that is effective and necessary for me at work would be counterproductive at home,' and 'The behaviors I perform that make me effective at work do not help me to be a better parent and spouse'. The 5-point Likert scale was used. A higher total score suggests a stronger work interference with family. In terms of the reliability of WFC, the entire internal consistency was shown as Cronbach's alpha=0.922. The internal consistencies of time conflict was alpha=0.888, for strain conflict was alpha=0.884 and behavioral conflict was alpha=0.896.

Aggression The Aggression Questionnaire (AQ) was used to measure aggression (Buss and Perry 1992). AQ has four subordinate categories. In this study, the physical aggression and verbal aggression categories were excluded since the study measures verbal violence and physical violence as observed indicators for the dependent variable IPV. Therefore, aggression was measured using seven items in the anger category and eight items from the hostility category. Anger is a more fundamental emotion, which can be externalized in

violent behaviors if not controlled properly (Del Vecchio and O'Leary 2004). On the other hand, hostility motivates violent behaviors by casting the world in a negative and cynical perspective (Spielberger et al. 1983). That is, anger as an emotion can be distinguished from hostility as a consequence of cognition. AQ is measured with 5-point Likert scale. A higher total score suggests greater aggression. The overall internal consistency of aggression is shown as Cronbach's alpha=0.865. By each subordinate dimension, the internal consistency of anger was Cronbach's alpha=0.735 and that of hostility was alpha=0.820.

Counseling Resource Availability of a counseling resource was measured by a question that asks whether there is a person who the individual can talk to when the individual has any difficulties or conflicts. A second measure, 'Is it necessary to receive professional counseling service?' was measured on a 5-point Likert scale with a range from 'definitely necessary' to 'not necessary at all'. Participants were also asked if they have ever received professional counseling.

All measures above were translated using the following procedures. First a bilingual researcher translated the measures from English into Korean, and then another bilingual researcher translated them back to English. Once the two-way translation was completed, the two English versions were compared to confirm the final version in Korean.

Analysis

We used a structural equation model to verify empirical association of WFC in career military personnel with IPV and to identify mediation by aggression and a moderating effect of counseling resources. For descriptive statistics, SPSS 18.0 was used and the demographic characteristics of the subjects and the status of IPV were identified. We verified that measured data conform to the normal distribution assumption, examining Kurtosis and Skewness; we also analyzed the correlation between variables. AMOS 18.0 program was used to estimate the mediation model. We used the Tucker Lewis Index (TLI), Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA) to evaluate the suitability of the model. Because there are missing data in the study materials, Full Information Maximum Likelihood (FIML) was used for estimation of the model, and Aroian test was carried out to verify the presence of mediated path between WFC and IPV. Aroian test equation is as below (MacKinnon et al. 2002).

$$z_{ab} = \frac{ab}{\sqrt{SE_a^2 SE_b^2 + b^2 SE_a^2 + a^2 SE_b^2}}$$

Note. a=raw regression coefficient for the association between the independent variable and the mediator, b=raw coefficient for the partial association between the mediator and the dependent variable, SE_a=standard error of a, and SE_b=standard error of b.

Results

Prevalence of Intimate Partner Violence

In the survey, 36.9 % of air force career personnel reported that they have perpetrated verbal or physical violence against their spouses, which is greater than one out of three doing so during the course of a year. The prevalence of verbal violence was 33.4 %, indicating that verbal violence was a factor in nearly all cases of the reported total rate of IPV. The prevalence of physical violence was 16.0 %, meaning that one out of six perpetrated acts of physical violence against a spouse at least once during the past year. The rate of physical intimate partner violence among air force personnel in South Korea is higher than the comparable rate in the U.S. Air Force, 12.9 % (Foran et al. 2011), but lower than in the U.S. Army, 23.5 % (McCarroll et al. 2010).

Key Attributes of Variables

Before using structural equation modeling to test our hypotheses, we ensured that the data values obtained normality. If Skewness and Kurtosis deviate from normality excessively, that can affect the result of survey analysis due to biased standard error estimation. It was found that the variables in this study satisfy the required assumption reasonably well. Table 2 shows mean value, standard deviation, and Kurtosis and Skewness of the variables.

Regarding WFC, time-based conflict (mean=3.05 on a 5-point scale) was higher than strain-based (2.72) and behavior-based (2.76). The data thus suggest that work-related time-based conflict interferes with roles in the family more than

Table 2 Characteristics and distribution of the main variables

Variable	M	SD	Skewness	Kurtosis
WFC				
Time-based	3.05	0.82	0.12	−0.37
Strain-based	2.72	0.82	0.19	−0.46
Behavior-based	2.76	0.81	0.39	−0.37
Aggression				
Anger	2.53	0.49	−0.19	0.20
Hostility	2.30	0.52	−0.24	1.53
Counseling resource	0.70	0.46	−0.86	

strain-based or behavior-based conflict. Regarding aggression, anger (mean=2.53 on a 5-point scale) was higher than hostility (mean=2.30 on a 5-point scale). The presence of counseling resources as a support system was measured by asking: "Do you have anyone who talks together about your problem or difficulty?" The mean response was 0.70, indicating that 70 % of the respondents reported that they have access to counseling resources. Although we defined "counseling resource" as having anyone who can listen to the individual's problem, 30 % of participants reported that they do not have any counseling resource.

Correlation Between Variables

As a basic analysis preliminary to the structural model, we analyzed correlation between each pair of variables (see Table 3). Each measured indicator for the latent variables IPV, WFC, and aggression had correlations consistent in direction with the other measured variables. In a preliminary structural equation model, not shown, the zero-order relationship between WFC and IPV was B=0.024 ($p<0.001$), with standardized $\beta=0.261$. IPV and WFC had statistically significant correlations with aggression. Presence of a counseling resource had no significant correlation with IPV and WFC. Aggression had statistically significant negative correlation with counseling resource.

The Result of Model Analysis

CFI, TLI, and RMSEA collectively support the suitability of the hypothetical research model in this study. The CFI value was 0.974, TLI value was 0.95,1 and the RMSEA value was within adequate range at 0.074. These values indicate that the research model meets the standard of suitability and reflects the data appropriately.

Table 4 shows estimated metric and standardized coefficients for the paths specified in this research model. The first hypothesis that WFC would affect IPV was statistically supported in the preliminary structural equation model (reported above). With aggression included in the mediational model, the direct effect became suppressed (reduced 79 % in magnitude). This is largely accounted for by variation in aggression. The second hypothesis, that aggression mediates the relationship between WFC and IPV, was supported. Aggression increased by WFC (0.489***), and increasing level of aggression increased likelihood of IPV (0.423***). Aggression mediated the relationship between WFC and IPV. Figure 1 is the diagram of the result of the model that demonstrates the path coefficients.

To test statistical mediation by the variable aggression, the Aroian test was conducted. The result was statistically significant ($Z=3.045$, $p<0.01$). WFC influences aggression, which in turn affects IPV. The residual direct path from WFC to IPV becomes nonsignificant. It can be interpreted that aggression substantially mediates the association between WFC and IPV.

Buffering Effect of Counseling Resource

In order to identify the relationship between counseling resources, WFC, and aggression, mean comparisons were performed (see Table 5). There was no statistical correlation between the presence of counseling resource and WFC, but aggression was statistically higher when counseling resource was not present. Table 6 shows the group difference in regression

coefficient on the path from WFC to aggression. Statistically, WFC affected aggression for both the group with counseling resource and the group without counseling resource. However, the metric regression coefficients (B), indicate that the group without a counseling resource had a greater rate of increase in aggression with increasing WFC than the

Table 3 Correlations among variables

	1	2	3	4	5	6	7
IPV							
1.Verbal violence	–						
2.Physical violence	0.42***	–					
WFC							
3.Time-based	0.11	0.09	–				
4.Strain-based	0.18**	0.09	0.68***	–			
5.Behavior-based	0.23***	0.18**	0.47***	0.48***	–		
Aggression							
6.Anger	0.22***	0.19***	0.19***	0.25***	0.24***	–	
7.Hostility	0.21***	0.22***	0.18**	0.30***	0.34***	0.62***	–
8.Counseling resource	–0.10	–0.04	–0.09	–0.10	–0.04	–0.26***	–0.25***

*$p<0.05$, **$p<0.01$, ***$p<0.001$

Table 4 Path coefficient and significance of each variable

	Path		ß	*B*	SE_B
WFC	→	Aggression	0.489	0.334***	0.052
Aggression	→	IPV	0.423	0.056***	0.016
WFC	→	IPV	0.054	0.005	0.008
WFC	→	time-based	0.826	1.258***	0.099
WFC	→	strain-based	0.885	1.322***	0.104
WFC	→	behavior-based	0.676	1.000	
Aggression	→	hostility	0.863	1.196***	0.127
Aggression	→	anger	0.767	1.000	
IPV	→	verbal violence	0.729	10.838***	2.728
IPV	→	physical violence	0.519	1.000	

***$p<0.001$

group with a counseling resource had. This suggests that a group without counseling resources has a stronger association between WFC and aggression than a group with counseling resources.

To verify the moderating effect of counseling resource in the relationship between WFC and aggression, a multi-group analysis was conducted, and equality constraint was added (see Table 7). As a result, compared to the baseline model that does not have equality constraint, the equality constraint model had statistical difference in that χ^2 value showed more than the threshold for change using one degree of freedom. This means that there is a statistically significant difference in the influence of WFC on aggression by the presence of counseling resource, and it supports the hypothesis that availability of a counseling resource buffers the relationship between WFC and aggression.

Since all the informal non-professional counseling resources were included when measuring counseling resource, we identified how many cases had received professional marital counseling. Only 12 cases (3.6 %) replied that they had received professional marital counseling services among 293 survey participants. Among those who answered that they had

Table 5 Comparison of means of aggression according to the presence of counseling resource

Variables	Counseling Resource	n	M	SD	t
WFC	Yes	204	2.81	0.623	−1.424
	No	89	2.94	0.795	
Aggression	Yes	204	2.33	0.470	−4.532***
	No	89	2.60	0.515	

***$p<0.001$

access to counseling resources, only 6 % of them had received professional counseling services. In terms of the mean value about whether they think it is necessary to receive professional counseling services, the group that had received professional marital counseling services showed 3.67 and the group without the professional services showed 2.62, and it was statistically significant (t=5.293, $p<0.001$). This suggests that individuals who have experienced professional counseling services clearly recognize their necessity more than those who have not.

Discussion

This is the first study to investigate the problem of WFC among military personnel in South Korea. To the best of our knowledge, no epidemiological literature on WFC specifically among military personnel is available. However, some findings from the United States (Carlson et al. 2000) and Taiwan (Lu et al. 2011) about WFC using the same measurement in the general population suggest that WFC among Korean military men is comparatively severe. Consistent with a study by Melzer (2002), which explored the relationship between WFC and IPV, our findings suggest that married Korean military personnel who have experienced harsh, risky, alert, and overtime working conditions, carry out their aggression at

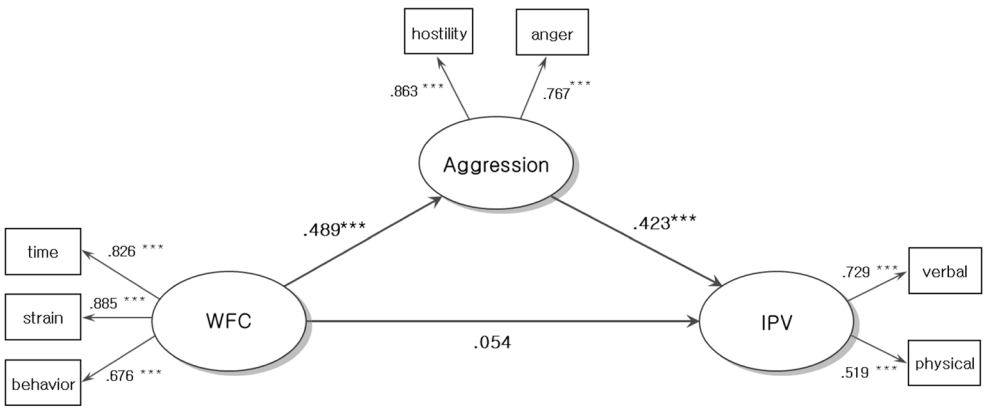

Fig. 1 Path coefficient and significance of research model

***$p<.001$

Table 6 Comparison of the path from WFC to aggression according to the presence of counseling resource

Path	Counseling Resource			
	Available		Not available	
	B	β	B	β
WFC → Aggression	0.224(0.038)***	0.356	0.319(0.060)***	0.493

***$p<0.001$

home and at times engage in IPV. Although this study was conducted in 2008, the hardship that the military personnel face in workplace has not decreased. Despite reconciliatory developments under the sunshine policy, the incessant pursuit of nuclear weapons and multiple provocations by North Korea has kept tension in the Korea Peninsula that may erupt into military collision at any time (Kim and Lee 2011). In addition, military personnel continue to suffer from heavy workloads. This study finds that aggression played a strong meditational role in the relationship between WFC and IPV, suggesting that increasing level of aggression increases the likelihood of IPV. This increased aggression, WFC, and IPV may be explained by the Confucian culture of hierarchical social structure, respect for authority, and inability to question the orders of a superior. However, this study reveals that availability of counseling resources for Korean military personnel moderates the link between WFC and aggression. The relationship between counseling and decreased levels of aggression has sound statistical support, suggesting that appropriate counseling to military personnel would reduce aggression, as well as the link between WFC and IPV.

Furthermore, we found that the zero-order association between WFC and IPV was almost entirely explained by aggression. Additionally, the relationship was moderated by availability of a counseling resource. Thus, from the structural equation modeling analysis, hypothesis #1, #2 and #3 are supported. These findings imply that it is important to find both risk factors and solutions to reduce IPV among military personnel (Jones 2012). Based on these findings, this study offers four practical implications for the Health and Welfare Bureau in the Ministry of National Defense, Republic of Korea to prevent IPV.

Table 7 Comparison between the base model and the equality constraint model

Model	Chi-square	*df*	CFI	TLI	RMSEA
Baseline model	36.084	22	0.972	0.946	0.047
Equality constraint model	40.979	23	0.964	0.934	0.052

$\Delta\chi^2 = 4.895$, $df = 1$; $p<0.05$

First, it is necessary for the military to build a system to prevent spousal abuse, recognizing the seriousness of IPV among military personnel. We estimate that one out of three military personnel in South Korea has perpetrated violence against their spouses within the past year, including one out of six who engaged in physical IPV. This means that domestic violence is not an isolated problem for a small group of military personnel but it is in fact a systemic issue. The military needs to address IPV and provide support for its solution. IPV should be considered a crime and the military needs to make an aggressive effort to build up a service delivery system for prevention and intervention.

Second, WFC should be considered a critical factor for the IPV of military personnel. This study shows that time-based conflict was more severe than strain-based and behavior-based conflict. This means that the Korean military personnel manage a heavy workload, prioritizing workplace responsibilities. The finding that family conflict related to heavy workload extends to IPV indicates that solutions should be applied to resolve this fundamental problem. Efforts to manage the work process efficiently, along with increasing the number of military personnel, need to be discussed. To reduce the second highest behavior-based conflict, interventions are needed to prevent military personnel from imposing the hierarchical military culture on the family setting.

Third, it is necessary to develop professional counseling services for military personnel. This study shows that 70 % of the survey respondents have access to professional or non-professional counseling resources. This means one out of three do not have any counseling resource to help with their problems. The study finding that a counseling resource buffers the link between WFC and aggression is suggestive of the benefit of counseling. The fact that only 3.6 % of all respondents have received professional counseling implies that the military is not equipped with a counseling service system for its personnel and that their emotional issues and needs have been neglected. Even though the number of military personnel who had received professional counseling services is relatively small, they recognized the necessity of professional counseling services more than the other group without such experiences. These results support the necessity of incorporating professional counseling services in the military system.

Fourth, it is necessary for the military to identify and address aggression tendencies among military personnel. It was found that aggression mediated the relationship between WFC and IPV. This means that aggression links WFC to externalized violence, implying that we need to make an effort to identify aggression among military personnel and to assist them to bring their internal aggression under control. In terms of two subordinate dimensions of aggression, hostility is more of a cognitive attitude toward others and social relationships, but anger is more related to internal emotions of an individual (Martin et al. 2000). This study shows that hostility has a

statistically significant positive correlation with anger. Therefore, it is crucial to treat both anger and hostility at the same time, and to implement interventions designed to enable clients to recognize anger toward one's spouse as inappropriate emotion, and hostility as improper cognition to control violent behaviors in the home. For this reason, cognitive behavioral therapy was found to be an effective intervention since it approaches anger as an emotion, hostility as a cognition, and violence as a behavior (Beck and Fernandez 1998). Moreover, counseling providers trained in cognitive behavioral therapy should be employed because they can identify covert aggression and appropriately treat it.

We suggest creating a new military personnel counseling system that coordinates the above four systems comprehensively. Education for spousal abuse prevention and intervention is essential. Furthermore, regular counseling services and psychological assessment should be performed by counseling professionals who can also pursue both the individual approach and the family approach for problem-solving. One study emphasized the importance of spouses among military personnel (Frey et al. 2011), and another noted that both physical and verbal violence are most serious when couples are mutually violent (Teten et al. 2009). Thus, family therapy that includes the spouse is recommended. A recent finding that 16.5 % of male military personnel who perpetrated IPV also were involved in child abuse (Martin et al. 2007) supports the necessity of family-focused intervention. Another point to note is that therapy for problem behavior at home is stigmatized within the hierarchical military service and would probably have a negative impact on a person's career. This circumstance makes it hard for the personnel with family difficulties to seek counseling since it may reveal their problems to other service members. Therefore, the system must ensure that all counseling activities remain confidential.

This study has the following limitations calling for further research. First, this path analysis study is limited using cross-sectional data. Additional longitudinal research is necessary to support a causal interpretation of the path from WFC to IPV via aggression, and the additional analysis needs to include control variables. Second, our measure on IPV does not reflect the responses from spouses. Because there is a tendency of underreporting IPV (Gondolf 2002), obtaining the responses from spouses will benefit further research with more precise IPV measures and a better perception on the characteristics of the interactive relationships. Third, the reliability of the CTS measures in this study was relatively lower than the median alpha coefficient in patriarchal countries (Straus and Mickey 2012). It is probable that dichotomizing responses for the analysis might have had a role, so further research is necessary to compensate for the limitation. Fourth, research to evaluate the effectiveness of professional counseling services is required. Given the statistics that only 12 cases received professional counseling services, experimental studies need to be carried out to evaluate the effectiveness of the services with a more systemic approach and analysis for effectiveness of actual counseling resources. Fifth, we compared the IPV levels of South Korea with those of the U.S. Air Force and U.S. Army, but it is not appropriate to look at statistical relationships among them due to time differences in the investigations. Therefore, it will be beneficial to perform a comparison study on the IPV levels of military personnel across countries, providing meaningful implications about IPV among military personnel. Finally, this study characterizes a sample of married men. It is likely that divorced men were even more prone to IPV prior to the dissolution of their marriages. It is also likely that the patterns of WFC and perpetration of IPV would not be the same among women in the military.

Compared to the United States, Finland, and South Africa, South Korea lacks military counseling services and systems (Daley 2003; Flynn and Hassan 2010; Lee and Choi 2010). It is time to build a new system to support military personnel who perform their tasks but also suffer from WFC in South Korea and other countries that lack military counseling services.

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