

Predictors of Emotional and Behavioral Symptoms among 'Looked after Children' in England

This study identified the health, academic attainment, violence and abuse factors on predicting the conduct development and emotional symptoms in 'looked after children' placement. A sample of 1,543 children was interviewed regarding emotional and behavioral symptoms and risk factors. Logistic regression was used to assess whether selected variables predicted emotional and behavioral symptoms in 'looked after children'. All placement, health, academic, violence, and abuse factors differentiated behavioral and emotional symptom differences according to selected variables. Binary logistic regression indicators of conduct behavior symptom among 'looked after children', included gender, age, placement, health, violence, and abuse. Placement, health, reading ability, violence, and witnessing domestic violence further predicted emotional and behavioral symptoms. These findings highlight multidimensional approaches to address various vulnerability indicators that have a direct application to prevention and intervention efforts to designed for emotional and behavioral problems among children in public care.

The term 'looked after children' was first used by the Children Act 1989 and refers to children who are subject to care orders and those who are accommodated because of abuse, neglect, or some form of

family breakdown. Reported is that less than two % of young people are accommodated in public care are due to civil offences (Sanders & Rowley, 2007:9). Looked-after children mostly come from a very disadvantaged population and many have had disrupted schooling before they become 'looked after'. The last statistical analysis showed that 82,300 children looked after by local authorities as of 31 March 2008 in England is broadly the same as the year 2007 of 83,500 and only a decrease of 2.7% from 2004 (84,900 - Table 1). This % age is steady over the past 5 years. In Korea 18,426 children were looked after at 31 December 2007 (Ministry of Health, Welfare, and Family Affairs, 2008:1) and is a decrease of less than 2.2% from a year earlier (18,817, Ministry of Health, Welfare, and Family Affairs, 2007:1), but an increase of 3% from 2000 (17,720, Ministry of Health, Welfare, and Family Affairs, 2004:7).

According to the DCSF (2008), before ceasing to be looked after during the year ending 31 March 2008, 15,410 children aged 16 and over were in foster placements, and about 10,000 were placed in the community (see Table 1). 642 children now aged 19 years who were looked after at 16 years were accommodated in independent living (Table 1). 64% of children under 16 years (who had been continuously looked after for at least two and a half years) were in the same placement for at least two years, or were placed for adoption (Table 2).

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Key Words: emotional symptoms, behavioral symptoms, risk factors, looked after children

Table 1. *Number of Days of Care Provided by Placement during Years Ending 31 March 2004-2008 in England*

	Year Ending 31 March				
	2004	2005	2006	2007	2008
Number of Children Looked after During Year	84,900	85,200	84,700	83,500	82,300
Days Provided Per Child (days)	263	261	262	263	266
Foster Placements	14,953	14,976	15,110	15,269	15,410
Foster Placement Inside Council Boundary					
With a Relative or Friend	2,145	2,051	1,999	1,912	1,860
With other Foster Care					
Provided by Council	7,722	7,464	7,305	7,279	7,268
Arranged Through Agency	455	537	660	797	962
Foster Placements outside LA Boundary					
With a Relative or Friend	721	738	741	715	687
With other Foster Career					
Provided by Council	1,822	1,861	1,926	1,931	1,917
Arranged through Agency	2,089	2,324	2,480	2,635	2,717
Placement with Parents	2262	2129	2043	1921	1788
Living Independently	486	547	587	628	642

DCSF: Children looked after in England (including adoption and care leavers) year ending 31 March 2008 in England, Table B2

Table 2. *% Ages of Placements*

	% ages of placements								
	1	2	3	4	5	6	7	8	9
All Placements	100	18	13	14	13	19	13	7	3
Foster Placements	100	19	13	13	12	18	14	8	3
Placed for Adoption	100	1	1	3	19	57	16	4	0
Placement with Parents	100	6	8	16	18	20	14	12	5
Other Placement in the Community	100	10	15	23	18	19	14	1	0
Secure Units, Children's Homes and Hostels	100	15	14	20	17	16	12	6	1
Other Residential Settings	100	22	19	26	19	10	4	1	0
Residential Schools	100	17	5	7	8	12	15	25	11
Other Placements	100	24	24	21	16	7	6	-	0

1 = all placements, 2 = 1 to 7 days, 3 = 8 days under 1 month, 4 = 1 month under 3 months, 5 = 3 months under 6 months, 6 = 6 months under 1 year, 7 = 1 year under 2 years, 8 = 2 years under 5 years, 9 = 5 years and over (Duration of Placements ceasing during the year ending 31 March in England, Table D7)

The following literature was analyzed in light of the need to identify the emotional and behavioral factors that place 'looked after children' in placement settings

Placements

The numbers and types of placement often indicate the potential exposure of children to the negative development of emotion or behavior in 'looked after children'. In Rubin *et al.* (2007) studies, frequent

changes of placement are linked with the likelihood of increased emotional and behavioral problems. Types of placement have also been associated with an increased incidence of conduct behavior problems in foster care children (Pithouse & Crowley, 2001). Lack of intimate communication between parents and children contributes to the development of lower levels of emotional well-being and the lack of parental monitoring of child behavior can be an important contributor to a negative development of behavior outcome (Ryan, 2005; Rees, 2006).

It is assumed that many of these children and young people in public care have experienced family abuse, rejection, disruption, and loss (DFES, 2007). In this context, the most fundamental requirement from care for these young people will be for stability. However, it seems that the actual situation is making children difficult to find an emotional well-being and to achieve satisfactory social integration in placements (Lee, 2007).

Too many children in foster care move too frequently. The latest figures for England show that 13% of looked-after children had three or more placements in the last 12 months and increased to 15% for children over 10 (Table 2). These children are likely to experience significant educational difficulties and other emotional problems because of frequent moves.

Health

The linkage of exposure to poor health conditions with emotional problems is found among children in public care. Although 80% of the childhood immunizations were up to date, 86% had a dental check-ups, and 84% had an annual health assessment (DCSF, Health outcome of 'looked after children', 2008), 'Looked after children' are overwhelmed by material and emotional problems and unable to cope. The first national survey (Department of Health, 2003) of the mental health of young people looked after by local authorities in England, estimated that 37% had clinically significant conduct disorders, 12% were assessed as having emotional disorders (anxiety and depression), 7% were rated as hyperactive, mental disorders were 49%, compared

with children from the private household survey (conduct disorder 5%, emotional disorder 3%, hyperactive 2%, and mental disorders 8%). Ford *et al.* (2007) also identified 50% of 'looked after children' as having a mental disorder compared with 15% in the comparison group. Although childhood health in public care is vulnerable for risk factors (Chung & Chang, 1999), there is limited research on childhood health status in public care facilities in Korea.

Academic Attainments

According to the 1989 Children Act, local authorities have a duty to promote the welfare of children and take reasonable steps to tackle those problems but poor outcomes for 'looked after children' have been reported by government performance data as well as research studies (Dominelli *et al.*, 2005; DCSE, 2008). Because of the poor academic performance (only 13% obtained at least 5 GCSEs at grades A*- C compared with 62% of all children in 2007, DCSE, 8), less than 5% of care receivers in England go to university. A similar situation is found in children leaving care facilities in Korea (Lee, 2003). This performance outcomes suggest the possibility of a negative experience of school (including failing in achieving educational success) is associated with the onset of maintenance of school related behavioral problems among 'looked after children' resulting in school performance failure.

There is also evidence that children can achieve educational success if they were able to earn appropriate support from teachers and maintain positive friendships in the same school (Jackson & Thomas, 2001). On the contrary, children with behavioral problems appear to have an increased risk for educational success and understating the mechanism of association of academic attainment and behavioral characteristics could help inform the development of preventive interventions.

Violence and Abuse Experiences

Clear associations are drawn between violence, abuse, and the development of emotional and behavioral problems. Farmer and Pollock (2003)

provided empirical evidence that the presence of violence and abuse differentiated between 'looked after children' with conduct problems like Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), and those without such problems. Also reported is that abuse experiences were related to the level of delinquent behavior problems in children (Um, 2001) and increased emotional difficulties (Lee & Kwon, 2002). Previous studies show that violated or abused children can further experience adaptation problems in public care facilities.

When considering the frequent experiences of violence and abuse in children in public care, it is clear that 'looked after children' who are affected by various violence and abuse are more vulnerable for exhibiting behavior problems than do less experienced children. This suggests that researchers need to identify the personal abuse and violence experiences in 'looked after children' and the resulting impact of those events on behavioral and emotional characteristics, in order to enhance personal levels of treatment and prevention support.

The literature on the relationship between various risk factors and emotional and behavioral problems among 'looked after children' suggests that multidimensional risk factors might predict high emotional and behavioral problem rates among public care children, compared with those who are raised in general families. This study examined the contributions of placement, health, academic attainment, violence, and abuse on the development of adverse emotional and behavioral symptoms, by investigating conduct and emotional symptom differences according to the selected variables in 'looked after children'. The present study advances the literature by addressing the shortcomings of multidimensional treatment approaches that can contribute to tackle various risk factors and accommodate the emotional and behavior well-being of 'looked after children'.

The research questions are as follows:

1. No behavioral and emotional symptoms differences according to the selected variables will be presented.

2. No multidimensional effects of placement, health, academic attainment, violence, and abuse will be reported on the development of adverse conduct symptoms in 'looked after children'.
3. No multidimensional effect of placement, health, academic attainment, violence, and abuse will be reported on the development of adverse emotional symptoms in 'looked after children'.

METHODS

Participants and Procedure

The sample for the survey was drawn from each authority taking part in the survey in England. All directors of Local Authority Social Services Departments in England were contacted for participation and to inform them of the survey; 134 of the 149 local authorities cooperated in the survey. Finally, a total sample of 1,543 children completed the consent form was created to ensure the equal proportion of children in each age band between 5 and 17 years.

The semi-structured interviews, using a survey questionnaire that includes diagnostic instruments and ensuring privacy in the interviews, were conducted as part of the mental health of young people looked after by local authorities in England. The length of the interview was 90-120minutes.

Table 3 describes the basic characteristics of the 1,543 children who took part in this study. Research participants aged between 5 and 18 (male = 884, female = 659). About 14% (210) of the participants had two and more different placements in last 12 months. In terms of type of placement, only 13.4% of the respondents had a placement with natural parent. The majority of respondents had good or very good general health conditions and 4.7% of the participants were taking medications. About half of them were experiencing difficulties in reading and mathematics. Approximately 6% of the participants reported that they had experienced violence or threats. Over 30% of participants answered that they had witnessed domestic violence. Over 22% of the participants reported sexual abuse.

Table 3. Characteristics of Participants

N = 1,543							
Category	Variables	N	%	Category	Variables	N	%
Gender	Male	884	57.3	Taking Medication	Yes	72	4.7
	Female	659	42.7		No	1,466	95.3
Age	5 - 10	513	33.2	Reading Ability	Above average	248	16.4
	11 - 15	739	47.9		Average	533	35.2
	16 - 18	291	18.9		Some difficulty	397	26.2
Number of Different Placement	0	361	24.2	Mathematics Ability	Marked difficulty	337	22.2
	1	666	44.7		Above average	208	13.7
	2	254	17.0		Average	504	33.2
	3 and more	210	14.1		Some difficulty	424	27.9
Type of Placement	With foster parent (s)	927	60.2	Experience of Violence or Threats	No	1,446	93.7
	With natural parent (s)	206	13.4		Yes	97	6.3
	Other relative (s)	76	4.9	Witnessed Domestic Violence	No	1,066	69.1
	In a community home or other residential	279	18.1		Yes	477	30.9
	Living independently	51	3.3		Experience of Sexual Abuse	No	1202
General Health	Very good	927	60.2	Yes		341	22.1
	Good	470	30.5				
	Fair	128	8.3				
	Bad	13	.8				
	Very bad	3	2				

Measures

The questionnaires used in this survey were based on International Classification of Diseases (ICD) 10² and The Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV diagnostic research criteria:

Conduct diagnosis The feature of conduct diagnosis is 'a repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated' (DSM-IV, 1994, p.85). The three main behavior types include deceitfulness, theft, and serious rule violations. The respondents were required to report present characteristic behaviors shown at home, in school, or in the community during the past 12 months. If the past behavior of the respondent manifests three or more out of 15 criteria, they are considered to be in the condition of conduct diagnosis. A '1' was given to them if the respondent

was found to be in the category of conduct diagnosis. A '0' was given to them if the respondent was not in the category of conduct diagnosis. The Cronbach's alpha for this measure was 0.85.

Emotional diagnosis If the respondent was diagnosed to be one of the following major categories (Anxiety Disorders/Phobias, Panic disorder, Post-Traumatic Stress Disorder, Obsessive-Compulsive Disorder, Mood Disorders/Depression, Manic-Depressive Disorder, Schizophrenia, and Delusional Disorders/Delusional Paranoia) of mental illness listed in the DSM-IV 1994, p.165-622, they are considered to be in the condition of emotional diagnosis. If the respondent was in the category of conduct diagnosis a '1' was given to them. If the respondent was not in the category of conduct diagnosis, '0' was given to them. The Cronbach's alpha for this measure was 0.90.

Table 4. Conduct and Emotional Diagnosis Differences according to the Selected Variables

Variables	Conduct Diagnosis					Emotional Diagnosis				
	No Disorder		Disorder		χ^2	No Disorder		Disorder		χ^2
	N	%	N	%		N	%	N	%	
Gender										
Male	513	58.0	371	41.9	16.412***	779	88.1	105	11.8	.607
Female	449	68.1	210	31.8		572	86.7	87	13.2	
Age										
5 - 10	312	60.8	201	39.1	2.953	456	88.8	57	11.1	3.320
11 - 15	456	61.7	283	38.2		649	87.8	90	12.1	
16 - 18	194	66.6	97	33.3		249	84.6	45	15.3	
Number of Placement										
0	247	66.5	124	33.4	11.486**	318	88.0	43	11.9	.433
1	430	64.5	236	35.4		584	87.6	82	12.3	
2	143	56.2	111	43.7		225	88.5	29	11.4	
3 and more	116	55.2	94	44.7		182	86.6	28	13.3	
Type of Placement										
Foster parent (s)	599	64.6	328	35.3	21.145***	843	90.9	84	9.0	29.076***
Natural parent (s)	140	67.9	66	32.0		165	80.0	41	19.9	
Other relative (s)	50	65.7	26	34.2		66	86.8	10	13.1	
Community home	143	51.2	136	48.7		232	83.1	47	16.8	
Living independently	28	54.9	23	45.0		42	82.3	9	17.6	
General Health										
Very good	617	66.5	310	33.4	20.511***	836	90.1	91	9.8	18.760***
Good	255	54.2	215	45.7		397	84.4	73	15.5	
Fair	78	60.9	50	39.0		105	82.0	23	17.9	
Bad	9	69.2	4	30.7		9	69.2	4	30.7	
Very bad	2	66.6	1	33.3		2	66.6	1	33.3	
Taking Medication										
Yes	33	45.8	39	54.1	8.782**	55	76.3	17	23.6	8.700***
No	926	63.1	540	36.8		1292	88.1	174	11.8	
Reading Ability										
Above average	171	68.9	77	31.0	15.290**	215	86.6	33	13.3	2.948
Average	350	65.6	183	34.3		459	86.1	74	13.8	
Some difficulty	243	61.2	154	38.7		352	88.6	45	11.3	
Marked difficulty	185	54.8	152	45.1		302	89.6	35	10.3	
Mathematics Ability										
Above average	144	69.2	64	30.7	16.626***	182	87.5	26	12.5	1.298
Average	335	66.4	169	33.5		439	87.1	65	12.8	
Some difficulty	259	61.0	165	38.9		379	89.3	45	10.6	
Marked difficulty	210	55.1	171	44.8		333	87.4	48	12.5	
Experienced Severe Attack or Threat										
No	917	63.4	529	36.5	11.223***	1274	88.1	172	11.8	6.350**
Yes	45	46.3	52	53.6		77	79.3	20	20.6	
Witnessed Domestic Violence										
No	694	65.1	372	34.8	11.166***	945	88.6	121	11.3	3.777**
Yes	268	56.1	209	43.8		406	85.1	71	14.8	
Experienced Sexual Abuse										
No	777	64.6	425	35.3	12.215***	1058	88.0	144	11.9	1.071
Yes	185	54.2	156	45.7		293	85.9	48	14.0	

*p<.05, **p<.01, ***p<.001

Analysis

Correlations between selected variables and Conduct & Emotional diagnoses of 'looked after children' were calculated using a Pearson correlation. Conduct and emotional symptom differences according to the selected variables were also tested with a chi-square statistic.

Binary logistic regression was used to analyze possible mediator effects. Missing values were substituted by the sample mean for that variable. The statistical analyses were performed using SPSS for Windows version 12.0.

RESULTS

Conduct and Emotional Diagnosis Differences according to the Selected Variables

Table 4 presents the conduct and emotional symptom differences in the selected variables of this study. There were significant differences in conduct diagnosis ($p < .001$) between genders. It also revealed that young people with biological parents have lower levels of conduct problems than those with foster parents ($p < .001$), living with other relatives, and living independently, where young people with biological parents report higher levels emotional difficulties than those with foster parents ($p < .001$). It was interesting to find that students with good health conditions report higher levels of conduct problems and lower levels of emotional problems than those with less health conditions ($p < .001$). Student reporting positive academic attainment retained lower levels of conduct problems than those experiencing academic difficulties ($p < .01$ for reading ability; $p < .001$ for mathematics ability). The results showed that the levels of conduct and emotional problems were high in the students who experienced severe attack/threat ($p < .001$; $p < .01$), and/or witnessed domestic violence ($p < .001$; $p < .01$), and sexual abuse ($p < .001$).

Neither significant conduct nor emotional differences were found in age variables. No significant emotional differences were found in gender, number of placement, reading ability, mathematics ability, and those who had experienced sexual abuse.

Factors Predicting Conduct Symptoms among 'Looked after Children'

Multiple logistic analyses were used to examine whether gender, age, number of different placement, type of placement, general health, taking medications, reading ability, mathematics ability, experiences of violence, witness of domestic violence, and experience of sexual abuse influence on the conduct disorder symptoms among 'looked after children'. In this analysis, all six of the variables were significant predictors of conduct symptoms among 'looked after children'. Table 5 presents the result of the logistic analysis of the probability of showing conduct symptoms among 'looked after children'. Gender and age variables were a strong predictor of conduct symptoms. Male children were more likely to show conduct problems than female children were ($OR = 1.576$, $p < .001$) and aged ones were less likely to exhibit conduct problems than young children were ($OR = .755$, $p < .001$).

The result showed that the type of placement is a significant determinant of the likelihood of showing conduct behavior problems. Children who lived in a community home were at 1.45 times ($p < .01$) greater risk and students who lived independently were at 2.029 times ($p < .05$) greater risk for exhibiting a conduct diagnosis than those who live with foster parents. This means that for children living in a community home and living independently, there are unresolved issues about appropriate supervision to guide behavior problems. There may be a lack of full-time and appropriate provision to supervise 'looked after children' in community homes.

In addition, students with less good health condition are more likely to show conduct problems than those with very good health ($OR = 1.531$, $p < .05$). Evidence suggests that positive health conditions are beneficial for behavior outcomes (Dance & Rushton, 2005). Likewise, active health conditions for delinquent children could be also beneficial for engaging in conduct behavior problems. Whereas health behavior factors such as substance abuse tend to produce negative behavioral and emotional outcomes, the risk of engaging in behavior problems appears to be escalated in good health

Table 5. Factors Predicting Conduct Diagnosis among 'Looked after Children'

Risk Factors	Conduct Diagnosis				
	B	S.E.	OR	95.0% CI	
				Lower	Upper
Gender	.455	.120	1.576***	1.245	1.994
Age	-.281	.088	.755***	.635	.896
Number of different placement in last 12 months	.109	.061	1.115	.990	1.255
Type of Placement					
With Foster Parents	-.119	.181	.888	.622	1.266
With Biological Parents	.076	.283	1.079	.620	1.876
Other Relatives	.583	1.472	1.791	.100	32.069
In a Community Home	.372	.159	1.450**	1.063	1.979
Living Independently	.707	.341	2.029*	1.039	3.959
General Health					
Good	.426	.128	1.531***	1.192	1.967
Fair	.013	.218	1.013	.661	1.552
Bad	-.450	.715	.638	.157	2.590
Taking Medications	-.486	.270	.615	.362	1.045
Reading Ability					
Average	.108	.189	1.114	.769	1.613
Some Difficulty	.233	.213	1.262	.832	1.915
Marked Difficulty	.349	.251	1.417	.866	2.319
Mathematics Ability					
Average	.054	.204	1.055	.707	1.574
Some Difficulty	.193	.222	1.212	.785	1.872
Marked Difficulty	.175	.259	1.192	.717	1.980
Experience Severe Attack or Threat	.475	.235	1.607*	1.014	2.547
Witnessed Domestic Violence	.146	.128	1.157	.900	1.487
Experienced Sexual Abuse	.437	.144	1.548*	1.166	2.055

Chi-square = 92.86 for 22 df

B indicates estimated regression coefficient; SE, Standard error; OR indicates odds ratio and 95% confidence intervals (CI)

* $p < .05$, ** $p < .01$, *** $p < .001$

conditions rather than in bad health conditions.

The analysis also showed that the importance of violence/threat and sexual abuse of children as a predictor of conduct behavior problems in respondents. Numerous qualitative studies (Polnay, 2000; McAuley & Young, 2006) concluded that children who have experienced violence or sexual abuse are at risk for a range of adjustment problems. Consistent with previous studies, this study showed that

children who have experienced violence/threat and sexual abuse were more likely to exhibit behavioral problems than those who had not.

No other effects in the model were statistically significant. The likelihood ratio test indicated that this model had a significantly better fit than the null model of no association ($\chi^2 = 92.86$ for 22 *df*, $p < .001$; Table 5).

Table 6. Factors Predicting Emotional Diagnosis among 'Looked after Children'

Risk Factors	Emotional Diagnosis				
	B	S.E.	OR	95.0% CI	
				Lower	Upper
Gender	-.259	.177	.772	.546	1.091
Age	.120	.129	1.127	.875	1.452
Number of different placement in last 12 months	-.054	.090	.947	.795	1.129
Type of Placement					
With Foster Parents	.897	.227	2.453***	1.573	3.826
With Biological Parents	-.042	.457	.959	.391	2.349
Other Relatives	2.033	1.520	7.639	.389	150.132
In a Community Home	.506	.230	1.659*	1.056	2.605
Living Independently	.517	.456	1.676	.685	4.101
General Health					
Good	.286	.189	1.331	.919	1.928
Fair	.356	.289	1.428	.810	2.517
Bad	1.732	.712	5.653*	1.400	22.820
Taking Medications	-.819	.325	.441*	.233	.833
Reading Ability					
Average	.002	.263	1.002	.599	1.676
Some Difficulty	-.190	.310	.827	.450	1.519
Marked Difficulty	-.813	.388	.443*	.207	.949
Mathematics Ability					
Average	-.021	.285	.979	.560	1.713
Some Difficulty	-.279	.323	.757	.402	1.425
Marked Difficulty	.347	.379	1.415	.673	2.973
Experience Severe Attack or Threat	.561	.301	1.752*	.972	3.160
Witnessed Domestic Violence	.334	.186	1.397*	.970	2.011
Experienced Sexual Abuse	.054	.210	1.056	.699	1.594

Chi-square = 60.53 for 22 df

B indicates estimated regression coefficient; SE, Standard error; OR indicates odds ratio and 95% confidence intervals (CI)

* $p < .05$, ** $p < .01$, *** $p < .001$

Factors Predicting Emotional Symptoms among 'Looked after Children'

To help examine multidimensional effects of gender, age, placement, health, academic attainment, violence, and abuse on the development of adverse emotional symptoms in 'looked after children', additional binary logistic analyses were conducted. In this analysis, all six of the variables were significant predictors of emotional symptoms among 'looked

after children'. Table 6 presents the result of the logistic analysis of the probability of having an emotional diagnosis among 'looked after children'. The type of placement was a strong predictor of emotional symptoms among them. Children living with biological parents were 2.453 times more likely to have emotional problems than those with foster parents (OR = 2.471, $p < .001$). This presumably was linked to an unchanged family environment for living with biological parents. Not ready for 'looked

after children', the ongoing, disrupted family experiences could be an increased continuing emotional burden in adding to the likelihood of having emotional symptoms. Placements with biological families of 'looked after children' require biological parents to be willing and able to deal with continuing over-activities of returned 'looked after children'.

Whether children have been in a good or bad health condition had a statistically significant impact on emotional conditions. Students in bad health conditions were more likely to have emotional problems than those in a good condition (OR = 5.653, $p < .05$); students taking medications were less likely to have emotional difficulties than those not taking medications (OR = .441, $p < .05$).

Students experiencing marked difficulties in reading were also less likely to have emotional diagnosis than those who had good ability (OR = 2.039, $p < .05$; OR = 1.846, $p < .05$). The easy answer is because they lack anxieties related to academic concerns (emotional symptoms). Since many of 'looked after children' are academically significantly under-achieved, the learning difficulties may play into lowering any confidence in the ability to cope with academic demands.

Respondents who experience severe attacks or threats were more likely to have emotional problems than students not reporting violence or threats were (OR = 1.752, $p < .05$). Similarly, children who have witnessed domestic violence were also more likely to have emotional difficulties (OR = 1.397, $p < .05$). Both witnessing domestic violence and experiencing violence are harmful to children in terms of the negative development of emotion i.e., higher levels of fear, anxiety, withdrawal, and depression. 'looked after children', presumably with poor coping skills, are more likely to be at risk of exhibiting emotional problems than children with strong coping skills and supportive social networks.

There were no statistically significant emotional effects for gender, age, number of different placements, mathematics ability, and sexual abuse. The likelihood ratio test indicated that this model had a significantly better fit than the null model of no association ($\chi^2 = 60.53$ for 22 *df*, $p < .001$; Table 6).

DISCUSSION AND CONCLUSION

This study explored the effect of multidimensional effect of placement, health, academic attainment, violence, and abuse on the development of conduct and emotional symptoms in 'looked after children'. The results show an increase in conduct and emotional symptoms in children living with friends or living independently and boys report more conduct symptoms than girls. This information may assist researchers (Farmer & Pollock, 2003; Macdonald & Turner, 2005) in recognizing the prevalence of behavioral and emotional problems in 'looked after children' under lower levels of supervision and the increased victimization of female students (Burns *et al.*, 2004; Ford *et al.*, 2007). Possible interpretations for this is that emotional behavior problems are common both in looked after boys and girls and low levels of supervision that may develop inaccurate or distorted views of behavior adjustment and exhibit a vulnerability in having emotional difficulties due to experiencing negative social relationships.

There were also statistically significant outcomes indicating that 'looked after children' in good health conditions are more likely to exhibit behavior problems than those in bad health conditions. Boys and girls in good health conditions show increased conduct problems compared to those in bad health conditions. This finding demonstrates the significance of taking care of active boys and girls (Chung & Chang, 1999; Simms, Dubowitz, & Szilagyi, 2000), indicating that the relatively high frequency of behavioral problems takes place in 'looked after children' with good health conditions in Korea as well as in the UK. An explanation to this finding could be that few of the 'looked after children' (only 1%) in this study were found in bad or very bad health conditions. Many 'looked after children' appear to be in a good health condition and be active in conduct behavior problems. Given that negative behaviors could be raised during good health conditions, the understanding can help equip professionals with a better adaption to challenging situations that require an adaptive response to negative behavior outcomes among 'looked after

children' and the necessary resources to handle those situations.

The comparison of conduct problems in children showed significant differences in reading ability. The more looked after boys and girls attain low levels of reading ability, the lower the levels of emotional symptoms. Based on the assumption that low levels of reading ability is connected to low levels of the self-esteem, a negative relationship is expected between reading ability and internalizing behavior problems such as depression and withdrawal. Boys and girls looked after who have reading difficulties may exhibit an emotional vulnerability that triggers problematic emotional patterns. There is evidence that young people with low levels of academic attainments report higher levels of anxiety and withdrawal (King *et al.*, 2006).

In line with previous studies both in the UK and Korea (Polnay, 2000; Um, 2001; Lee & Kwon, 2002; McAuley & Young, 2006), it is also found that a greater proportion of children who experienced violence, domestic violence, and sexual abuse, reported significant higher levels of conduct symptoms than children who did not experience those problems. The levels of emotional symptoms were also elevated among children who experienced violence and witnessed domestic violence. This study suggests that 'looked after children' who experienced violence, domestic violence, and abuse, are at increased risk of emotional and behavioral problems. Because these young people tend to commit violent behavior to others later on (Um, 2001), they are required to receive appropriate treatment and assistance for these emotional and behavior problems.

Results indicated that gender, age, type of placement, general health, and experiences of violence & sexual abuse were the predictors of conduct behavior problems among 'looked after children'. The association between behavior and secure attachment relationships within placement provide empirical support that supportive relationships with placement parents help children to exhibit pro-social behavior (Ryan, 2005; Lee, 2007). Attachment seems to have an inhibiting functioning on negative internalizing or externalizing behaviors (Ryan, 2005). Previous studies (Kandel & Andrews, 1987; Lyons-

Ruth, 1996) have showed that young people who have a positive parental attachment are less likely to engage in problematic behavior patterns. Secure attachment for 'looked after children' plays a positive role in motivating the quality of social functioning. This suggests a need to provide children with a reliable high quality of service to enhance better attachment between workers and children in public care.

Consistent with other research (Polnay, 2000; McAuley & Young, 2006), experiences of violence & sexual abuse were related to conduct problems among 'looked after children'. Children who reported experiences of violence & sexual abuse also reported that they engaged in more behavior problems. This finding indicates that apparent effects of experiencing violence & sexual abuse are still factors many years later. It is required to develop treatment programs for coping with current violence and abuse victimization among 'looked after children'.

Contrary to previous literature, there were no relationships between the number of different placements (Rubin *et al.*, 2004; Barth *et al.*, 2007), academic attainment (Kessler *et al.*, 1995; Lee, 2003; Miech, Eaton, & Brennan, 2005), witnessing domestic violence (Polnay, 2000; McAuley & Young, 2006) and behavior characteristics among 'looked after children'. Bandura (1999) suggested that there is a relationship between intellectual development and social functioning. The fact that academic ability does not differentiate the behavior patterns of 'looked after children' means the need to develop a sense of academic efficacy that is enough to self-regulate behavior problems in the consideration that many of them have low levels of academic ability. Interestingly, the numbers of different placement were not a significant predictor of conduct diagnosis. It is likely that the behavior pattern of relations between the numbers of different placements and conduct vary depending on (not the numbers of different placement) but the positive interaction within the placement.

The current study found that the emotional problems in 'looked after children' were associated with poor health. This was consistent with the hypothesis that emotional coping ability is related to health conditions (Rees, 2006) i.e. reduced health

condition deteriorates effective employment from available coping strategies. Suggested is that the health condition among 'looked after children' may need to be promoted to help them better equip emotional coping abilities.

The experience of difficulty in reading was also associated with increased levels of emotional symptoms. Relational difficulty in reading had a significantly higher negative impact on the levels of emotional problems compared to those with good reading ability. While a competitive sense is known to be associated with increased stress and anxiety (Department for Education and Skills, 2006), the present study also revealed that lack of basic academic ability can be a stress, causing 'looked after children' to suffer from relational deterioration. It is important for case workers to understand the importance of a professional role in improving academic ability in addition to helping children facilitate emotional stability.

Consistent with previous studies (Farmer & Pollock, 2003; Ford *et al.*, 2007) and the hypothesis of this study, the findings showed a significant association between witnessing domestic violence, sexual abuse, and emotional problems among 'looked after children'. There was a significantly higher reporting of witnessing domestic violence and sexual abuse among them. It is likely that children exposed to extreme violence or sexual abuse impact the emotional condition beyond the initial experience.

When 'looked after children' are faced with various social problems in addition to current emotional symptoms, they may engage in ineffective coping strategies like substance abuse that lead to increased behavioral and emotional problems. The findings from previous research showed that boys and girls who were victimized in multiple problems were at increased risks (Um, 2001; Ford *et al.*, 2007; Rubin *et al.*, 2007; Milburn *et al.*, 2008). The awareness of factors related to emotional problems among 'looked after children' can be helpful in developing effective support and preventive programs. It is important to develop effective services and intervention programs to solve the effects of negative variables on childhood emotional and behavioral characteristics. In addition to developing effective

services and programs, professionals also need to help 'looked after children' improve social skills against negative adjustment, changing maladaptive patterns of functioning that may trigger other serious behavior problems.

This study is important to understanding the emotional and behavioral characteristics of 'looked after children' and the complexity of influences on emotional and behavioral development; however, the findings of this study need to be interpreted with caution. The measures from the data should be carefully treated due to the nature of this study, as based on the self-reports of children and interviewer biases. Future studies need to address the effects of the accumulation of emotional and behavioral problems on the emotional and behavioral developments of 'looked after children' according to placement type, general health, academic attainment, violence, and abuse variables.

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