A Study between Family Interaction, Internet Usage Behavior and Runaway Behavior of Poor and Underprivileged Children or Youths

Teng-Li Yu, Yu-Chang Liou, and Jiun-Hao Wang

Abstract—**With the spread of Internet, poor children and youth have more opportunities to access the Internet and engage in exchanging and obtaining information. Although the use of the Internet can help reduce the education gap between poor and underprivileged children, the use of the Internet can easily lead to Internet addiction. Family intervention and parental discipline have a very significant inhibitory effect on adolescent Internet addiction and related criminal behaviors. The purpose of the paper is to examine poor and vulnerable children with Internet usage behavior, family interaction and runaway behavior correlation. The sample of the study consisted of 3153 children and youths by Taiwan Database of Children and Youth in Poverty (TDCYP). The results revealed that Internet use behavior among poor children is significantly associated with runaway behavior and more frequent arguing with family or elders will significantly increase the chances of poor children and youths leaving their homes.**

Index Terms—**Children, runaway, family interaction, internet usage behavior.**

I. INTRODUCTION

In recent years, the gap between the rich and the poor in Taiwan has hit a record high. The issue of poverty is a topic that Taiwanese society has been attempting to face squarely. On the other hand, children in impoverished families are unable to choose their starting point in life. They bear the pressure and environment of their origins, leading to major social and psychological problems, such as behavioral deviation and crime. Among the topics discussed for poor children is moral blamelessness without censure [1]. Based on the innate protection of young people's views and the lack of children's political and economic power, the issue of child poverty deserves particular attention [2].

According to a preliminary analysis conducted in 2011 by the Taiwan Fund for Children and Families (hereinafter to be referred to as TFCF), nearly 12% of the children and youth in poor and disadvantaged families have experienced escaping from their homes. Based on relevant research, the main reasons for running away were: incomplete family structure, family violence and abuse, and family conflict. In addition, children and juveniles who voluntarily left their homes once are at higher risk of running away from home again [3], [4].

With social values and social tools changing rapidly, the reason for juvenile disappearances differs from the past. The majority of missing youths were those who voluntarily left home compared to earlier years when children were taken from their homes through deceptive measures. Bartol's [5] criminological study found that repeat offenders tend to see precursors of behavioral biases in their grade school life, and these disturbing behaviors often start early in childhood. Gottfredson and Hirschi [6] explain the characteristics and elements of the crime based on the theory of daily activities and consider the influence of daily activities and their affect on the chance of crime. Children who run away are more likely to be closely linked to crimes and risky behaviors including as drugs, sexual violence, and AIDS contraction during their time away and are at a greater risk of crime or victimization [7], [8].

With the spread of Internet, poor children and youth have more opportunities to access the Internet and engage in exchanging and obtaining information. Although the use of the Internet can help reduce the education gap between poor and underprivileged children, it has also become an important channel for juveniles to socialize [9]. Furthermore, the use of the Internet can easily lead to Internet addiction, thereby affecting learning outcomes and cognition [10], [11]. For certain kinds of use relating to adult, inappropriate, or undesirable content such as Internet pornography, it can be used to solicit children to participate in sexual crimes and sexual abuse [12], [13]. Internet harassment and internet bullying can also influence children's self-esteem and personality traits [14].

As a result, there is a close link between a child's family interactions, Internet usage, and runaway behavior. Based on the premise of improving the welfare of children and preventing them from committing minor crimes, this study hopes to explore the idiosyncratic factors and characteristics of youth runaway behavior and hope to explore with the perspective of family interaction. This paper will also explore the interrelationship between runaway behavior and Internet usage. Therefore, the main research purposes of this study are: First, to understand the relevant characteristics of Taiwan's poor and vulnerable children's runaway behavior. Second, to explore poor and vulnerable children with Internet usage behavior and runaway behavior correlation. Lastly, to explore poor and vulnerable children with family interaction and runaway behavior correlation.

II. LITERATURE REVIEW

A. Juveniles Runaway Behavior

On the literature about the runaway of juveniles, Homer [15] studies the runaway of girls from their homes, which is divided into two types: running from and running to, the former refers to those who encounter interpersonal conflicts and family problems that can not be resolved, the latter refers to seeking happiness or being attracted to or pressure peer groups. This classification can give insight into the reasons and motives of juvenile runaway. This study focuses on the influencing factors of voluntary runaways and therefore excludes "disowned" or "homeless" individuals who left involuntarily.

Many studies have pointed out that juvenile evasion is caused by long-term or complex inter-related factors. The reason why juveniles runaway from their homes include: parent-child conflicts, fear of being abused, beaten, sexually abused, unreasonable demands or exclusion by parents, family conflict or disruption and school-accompanying factors [16].

Hypothesis 1: The gender and age of poor children is significantly associated with the runaway behavior.

Hypothesis 2: The family interaction of poor children is significantly associated with the runaway behavior.

B. Internet Usage Behavior and Runaway

Young [17] published an Internet addiction article as "Internet addiction: The emergence of a new clinical disorder". In recent years, some scholars have reported that physical and mental health is impaired due to the use of computers and the Internet, as well as academic achievement and work loss and even broken family. The Internet is obviously not just convenient, it also brings personal, family and social issues. As can be imagined, such problems are more likely to occur in places where the Internet is well developed. Teens who have run away from home have a very high percentage (about 70% to 80%) of their friends who have had the experience of escaping from their home. They often have access to Internet cafes and have more friends from Internet cafés or friends on the Internet [18]. Therefore, the Internet usage behavior has a significant correlation and impact on the runaway behavior.

Among the concepts associated with dangerous online information are sexual, violent, cruel, inability to control children's access to the Internet, negative emotions associated with Internet advertising and information products [19]. Matejevic, Jovanovic and Lazarevic [20] point out that family intervention and parental discipline have a very significant inhibitory effect on adolescent Internet addiction and related criminal behaviors. While Khong [21] interviewed Singaporeans who run away as juveniles, the use of the Internet accounts for a certain proportion of the daily lives of runaway juveniles.

Hypothesis 3: The Internet usage behavior of poor children is significantly associated with the runaway behavior.

III. METHOD

This study adopts the follow-up survey of a trend survey of disadvantaged children and youths by Taiwan Database of Children and Youth in Poverty (TDCYP). TDCYP is a national long-term follow-up survey project planned by the TFCF, a sample of which is based on the release of the "2011 self-completed questionnaire" database.

The sample of the study consisted of 3153 children and youths. 46.1% were male and 53.9% female. Ages between 11 to 22 years' old whom 64.9% lived in rural area with family member of 56.5% between 4-5 people, 24.5% of 3 or less and 19.0% of 6 or more members. The family structure that 21.3% were parents care, 12.8% were reared by grandparents, 10.7% were single father, 59.6 were single mother, 4.6% were foreign spouse and 6.6% were taken care by relatives.

The study used mean, standard deviation, frequency distribution and percentages to describe participants' personality traits, using chi-square analysis and binary Logistic regression analysis to explore the impact of poor children whom runaway relevant influencing factors. In the analysis model, whether to runaway as a response variable, gender and age of poor children as control variables, Internet behavior and parent-child interaction are as independent variables. Its model is:

$$\ln\left(\frac{\text{Runaway}}{\text{Not Runaway}}\right) = \beta_0 + \beta_1\text{Gender} + \beta_2\text{Age} + \beta_3\text{ Internet Behavior} + \beta_4\text{Parent-Child Interaction} + \varepsilon \quad (1)$$

IV. RESULTS

A. The Chi-square Analysis of Escaping Home Factors

The results of the chi-square test show most of the variables are of significant relevance to the runaway behaviors. The chi-square analysis of the correlations between the variables and the runaway home shows that most of the variables have a significant correlation with poor children runaway homes. In the control variables, there is a very significant correlation between gender and runaway ($\chi2= 7.775$), with males being more likely to runaway than females. There was also a significant correlation between residence and runaway ($\chi2= 8.611$), indicating that the proportion of children who were escaping home in urban areas was higher than rural areas. The family structure of inter-generational and single-parent families are also significantly associated with the act of escaping home.

For Internet usage behavior "how often do you use Internet," was the only one not significantly associated with the act of escaping home. The other variables of "whether there is a computer in the place where you live" ($\chi2= 18.636$), "most frequently Internet usage place" ($\chi2= 25.332$), "average Internet use time" ($\chi2= 29.732$), "whether the primary caregiver knows about the Internet behavior" ($\chi2= 13.410$) were significantly relevance. The "main activity of Internet access" of "do homework, collecting information online", "playing computer games or online games" and "Download software or files" have a significant correlation with the runaway behavior.

In the family interaction part, "whether commutate with family" ($\chi2$= 45.686), "whether family members know you leave home"($\chi2$= 83.674), "is the family concerned about your grades" ($\chi2$= 27.354), "whether to argue with parent or elder" ($\chi2$= 73.714), and "whether or not family members encourages compliment" ($\chi2$= 30.979), all have a very significant correlation with runaway behavior.

B. *Poor Children Runaway Factors of Binary Logistic Regression*

The results of the Binary Logistic Regression show most of the variables are significant relevance to the runaway behaviors, as result shown in table 1. Age has a significant positive predictive effect on runaway behavior (β = 0.401 and 0.480, respectively). The odds ratio between the age group of 16-18 and the age of 19-22 compared to the age of 13-15 is 1.494 and 1.616, showing that the older the age, the higher the probability of runaway. Residential areas also have significant projections of their runaway behavior. Analysis shows that rural areas have a lower chance of escaping than in urban areas.

TABLE I: POOR CHILDREN RUNAWAY FACTORS AFFECTING LOGISTIC REGRESSION ANALYSIS (N = 3153)

Variables	Regression Coefficient		Odd Ratio
Intercept	-2.068	***	
Gender (control group: Male)			
Female	-0.132		0.877
Age (control group: 13-15 years old			
16-18 years old	0.401	**	1.494
19-22 year old	0.48	**	1.616
Residence (control group: urban area)			
Rural area	-0.384	**	0.681
Total number of family members (control group: 3 or less)			
4-5 people	0.078		1.081
6 or more people	0.232		1.261
Family structure (control group: no)			
Parental	-0.155		0.856
Inter-generational	0.215		1.24
Single father	0.315		1.371
Single mother	-0.16		0.852
Foreign spouse	-0.467		0.627
Relatives take care	0.071		1.074
Whether there is a computer in the place where you live(control group: yes)			
Yes but no internet	0.473		1.604
No computer	0.264		1.302
Most frequently internet usage place (control group: home)			
Outside home	0.517	*	1.677
How often do you use internet (control group: less than once per week)			
Two or three time per week	0.176		1.193
At least one time per day	0.184		1.202
Average internet use time (control group: less than one hour)			
One to two hours	-0.222		0.801
Two to three hours	-0.025		0.975
Three to five hours	0.246		1.279
Five hours or more	0.284		1.328
Whether the primary caregiver knows about the Internet behavior(control group: rarely known)			
Mostly known	0.025		1.026
Completely known	-0.121		0.886
Uncertain	-0.073		0.929
Main activity of internet access (control group: none)			
Listen music or watch online video	0.049		1.051
Chatting with friends or social medias	-0.005		0.995
Do homework, collecting information online	-0.544	***	0.58
Playing computer games or online games	0.259		1.295
Download software or files	0.152		1.164
Whether commutate with family (control group: rarely commute)			
Mostly commutate	-0.037		0.964
Everyday commutate	-0.326		0.722
Whether family members know you leave home (control group: rarely known)			
Mostly known	-0.654	***	0.52
Completely known	-0.762	***	0.467
Whether parents or elders know your friends (control group: never known)			
Less known	0.343		1.409
Mostly known	0.575	*	1.776
Is the family concerned about your grades (control group: rarely care)			
Mostly cared	0.105		1.111
Completely cared	-0.041		0.96
Whether to argue with parent or elder (control group: never argued)			
Rarely argued	1.276	***	3.582

Often argued	2.03	***	7.61
Whether or not family members encourages compliment (control group: rarely)			
Often	-0.344	*	0.709
Every time	0.199		1.22

*P<0.05, **P<0.01, ***P<0.001

For the online behavior section, "most frequently Internet usage place" has a very significant positive forecast ($\beta = 0.517$) for the behavior of escaping and by "using Internet outside home" compared those with "using Internet at home" to the odds ratio of 1.677. This indicating that it is far more likely to run away from home for those using Internet outside home than using Internet at home. As far as the "main activities of Internet access", if using Internet for "doing homework, collecting information online", there is a significant negative forecast ($\beta = -0.544$) of runaways and by using Internet "do homework, collecting information online" behavior's poor children compared those with who use less Internet to the odd ratio of 0.580. It shows that the poor and vulnerable children who collect information and prepare homework from time to time will have lower probability of escaping home.

In terms of family interaction, "whether family members know you leave home" is highly significant in a negative prediction ($\beta = -0.654$ and -0.762, respectively). The analysis shows that "every time a family member knows" or "mostly that they know" he/she is going out compared those with "rarely known" to the odd ratio of 0.520 and 0.467, which show that family members who are more aware about their children going out will significantly reduce the probability of escaping home. "Whether parents or elders know your friends" shows a positive prediction and analysis shows that if parents or elders know most of their friends, they will increase their chance of escaping. "Whether to argue with parent or elder" has extremely significant positive prediction for children and youths ($\beta = 1.276$ and 2.030, respectively). The "rarely argue" compared those with "never argue" to the odds ratio of 3.582 and for those "often argue" compared those with "never argue" to the odds ratio of 7.610, which shows that arguments with family members are important and crucial factor for poor children to runaway. "Whether or not family members encourage compliments" has a significant negative prediction ($\beta = -0.344$) for runaway, and the odd ratio of occasional compliments to those rarely compliment is 0.709, so family members whom frequently encourage and praise them will reduce probability of their runaway.

V. CONCLUSION

The impact of poverty on children and youths, not only lack of material good conditions, leading to malnutrition and physical retardation. From a social point of view, poverty deprives children and youths of educational opportunities and lacks social participation, making them less likely to accumulate human capital. In response to the changes in society and culture, Taiwan continually adjusted the handling and interpretation of the poverty and escalation. However, the design concept was still mostly derived from European and American cultures and lacks the planning of welfare services based on Taiwan experience. Most of the domestic studies on escaping are case studies of qualitative interviews and can not be viewed or discussed in large scale.

In this study, we found that the runaway behavior of poor children will have a higher probability of escaping with an increase of age. This study also shows that Internet use behavior among poor children is significantly associated with runaway behaviour. Internet use behavior, either at home or away from home, long hours (more than five hours) a day, and playing computer or online games will have a significantly positive prediction of escaping. In the interactive part of the family, frequent conversations with family and family members about their whereabouts had a very negative prediction over their runaway behavior, such family interactions will reduce the chance of runaway. Research and analysis also show that more frequent arguing with family or elders will significantly increase the chances of poor children and youths leaving their homes.

Based on the findings of this study, we suggested that TFCF could use after school tutorial sections to provide relevant counseling for children to use the computers and to access the Internet. Not only would it help in preventing them from being exposed to behavioral distortions, it potentially would help in guiding them in correct and appropriate Internet usage. TFCF can also make use of the related discussion and interview opportunities to remind parents and elders of the importance of good communication and interaction as to promote the development of children and youths despite the relative unfavorable economic conditions. In addition, they will continue to have close interactions with their families in order to reduce their deviation.

The factors that causes runaway behaviour are complex and can be easily affected by social changes and technological progress. It is recommended that the follow-up continue to be concerned about the issue of poor children and provide good social welfare assistance. Furthermore, it should actively avoid and guide poor children due to economic difficulties for causing deviation behavior. Instruct them to follow the good and correct "values," "attitudes," and "behavioral patterns" to move forward and get rid of the vicious circle of poverty on behalf of the generation.

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