Development and Evaluation of a Resilience Enhancement Program for Shelter-Residing Female Youth

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Development and Evaluation of a Resilience Enhancement Program for Shelter-Residing Female Youth

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ABSTRACT

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Background: Runaway youth are likely to have prior experiences of traumatic events such as abuse and neglect by parents or caregivers, and as a result they are vulnerable to various mental health conditions. To address trauma-related mental health needs, this paper suggests strength-based interventions based on resilience theory.

Objectives: This study aims to (1) develop a resilience enhancement program consisting of individual protective factors for shelter-residing female runaway youth and (2) to evaluate the effects of this program on resilience, depression, anxiety, and problem drinking among this cohort.

Design and setting: This study was a quasi-experimental research with a non-equivalent

control group non-synchronized design. Participants recruited from five women youth shelters were assessed at pretest, posttest, and 1-month follow-up assessment.

Participants: This study recruited 32 shelter-residing female youth aged from 12 to 21 (16 experimental participants and 16 control participants).

Methods: A resilience enhancement program was developed based on an integrative literature review and a needs assessment. After data collection for the control group, data for the experimental group was collected. Changes in outcome measures over time between groups were analyzed using Generalized Estimating Equations.

Results: The intervention incorporates four protective factors of resilience: self-esteem, self-regulation, relational skills, and problem-solving and goal-setting skills. There were significant group-by-time interaction effects for resilience, anxiety, and problem drinking at 1-month follow-up. Although significant decreases in depression over time occurred for both experimental and control participants, the number of participants reporting clinically significant reduction in depression was greater in the experimental group than in the control group.

Conclusions: The results indicate that a resilience enhancement program is effective in improving resilience, anxiety, and problem drinking in female runaway youth residing in shelters. This theory-driven intervention will be expected to be delivered by psychiatric and mental health nurses to help runaway youth living in shelters.

Keywords: anxiety, depression, problem drinking, resilience, runaway youth

1. INTRODUCTION

1.1. Background

According to a national survey of adolescents, 11.0% of Korean middle and high school students had run away from home at least once, and 40.6% of Korean adolescents had felt the urge to run away (Ministry of Gender Equality and Family, Republic of Korea, 2014). Youth run away from home for the first time when they are in the first year of middle school on average, which is earlier than it was in the past (Kim & Jung, 2015).

Runaway youth are likely to have experienced traumatic events before leaving home and while on the streets (Bender, Thompson, Ferguson, Yoder, & Kern, 2014). Most of their traumatic experiences prior to leaving home are likely to include abuse and neglect by parents or caregivers (Bender et al., 2014; Gwadz, Nish, Leonard, & Strauss, 2007; Williams, Lindsey, Kurtz, & Jarvis, 2001). After running away from home, youth are at risk of exposure to violence, crime, and prostitution due to lack of financial resources and interaction with antisocial peers (Bender et al., 2014; Suh & Kim, 2013).

Youth who have childhood traumatic experiences are more likely to have mental health problems (Kim, Noh, & Park, 2015). Similar to homeless adults, runaway and homeless youth have high rates of depression, bipolar disorder, posttraumatic stress disorder, and substance use (Saddichha, Linden, & Krausz, 2014). Lee and Kwack (2001) reported that 36% of their sample of runaway adolescents living in shelters was classified as having clinical psychiatric symptoms. Kim et al. (2005) reported that 35.1% of their female

runaway youth sample had attempted suicide, and the proportion of alcohol and drug use among them was 87.8% and 10.8%, respectively. The prevalence of alcohol use disorders in runaway youth living in youth shelters was reported to be 37.1% (Ko et al., 2016).

As for gender differences in mental health status, female youth with runaway episodes reported higher levels of depression and anxiety than did male youth (Cho & Park, 2010). In a sample of shelter-residing runaway youth, the prevalence of depression among females (42%) was reported to be more than twice that of males (20%) (Ko et al., 2016). Gwadz et al. (2007) found that female homeless youth had experienced emotional and sexual abuse at higher rates than male homeless youth, and females were more likely to develop post-traumatic stress disorder than males. Therefore gender-specific approaches designed for this vulnerable female sample are needed.

To address trauma-related mental health needs among homeless youth, McManus and Thompson (2008) suggested a strengths-based approach focusing on their inner strength and positive resources rather than traditional approaches focusing on their deficits and risks. A strengths-based approach was guided by resilience theory (Zimmerman, 2013), and resilience is defined as the ability to cope successfully in the face of substantial stress or adversity through the influence of various protective factors (Rutter, 1987). Resilience-based interventions aim to foster protective factors such as assets and resources to prevent the impact that risk factors have on resilience outcomes (Fergus & Zimmerman, 2005).

In a framework describing protective factors for in-risk youth developed by the U.S. Administration on Children, Youth and Families (ACYF), protective factors are

categorized as belonging to individual, relationship, and community levels (Development Services Group, Inc., & Child Welfare Information Gateway, 2015). Among several individual, relational, and community-level protective factors, individual protective factors can be managed and controlled by youth themselves. The previously known individual protective factors for homeless and runaway youth were self-esteem, self-regulation, relational skills, and problem-solving and goal-setting skills (Dang, 2014; Gardner, Dishion, & Connell, 2008; Kidd & Shahar, 2008; Lightfoot, Stein, Tevendale, & Preston, 2011).

A few studies of runaway and homeless youth have evaluated a strength-based approach (Edinburgh & Saewyc, 2009; Grabbe, Nguy, & Higgins, 2012; Mastropieri, Schussel, Forbes, & Miller, 2015; McCay et al., 2011; Rew, Thompson, Brown, & Seo, 2014; Saewyc & Edinburgh, 2010), but since four of these earlier six studies had no control group, there is limited evidence of its effectiveness on mental health outcomes. Additionally, the components and format of interventions varied across studies. To address this existing gap in the literature, the current study aims to develop a resilience enhancement program consisting of individual protective factors and to evaluate its effects on mental health outcomes in female runaway youth.

1.2. Purpose

The objectives of this study are to (1) develop a resilience enhancement program consisting of individual protective factors for shelter-residing female runaway youth and

(2) to evaluate its effects on resilience, depression, anxiety, and problem drinking among them.

2. LITERATURE REVIEW

2.1. Mental health status among runaway youth

According to the Medical Subject Headings (MeSH) provided by the U.S. National Library of Medicine, "runaway behavior" refers to "a behavioral response manifested by leaving home in order to escape from threatening situations." Family problems are the main reason for running away (Fernandes-Alcantara, 2013), and runaway youth suffer from family traumas (Williams et al., 2001). They reported high levels of parental alcohol problems and family conflict (Kim et al., 2005), and runaway youth with depression were more likely to have insecure attachment relationship with their parents than those without depression (Ko et al., 2016).

After leaving home, these youth are likely to involve in delinquency or crimes such as drug use, stealing, violence, and prostitution due to lack of living expenses and negative peer role models (Suh & Kim, 2013; Jeon & Lee, 2012). In a sample of shelter-residing runaway youth, 37.1% had experienced illegal behaviors and 8.5% had engaged in sexual activity for making a living (Lee & Kwack, 2001). In a survey on these youth living in shelters, 15.9% reported that they had slept on the streets and 21.0% reported that they had lived together with other runaway youths at residential facilities like model and studio (Jeon & Lee, 2012).

It has been reported that the most of runaway adolescents have traumatic experiences such as physical, emotional and sexual abuse and neglect before leaving home and while

on the streets (Bender et al., 2014; Williams et al., 2001). The rates of traumatic experiences among homeless youth reported as 78% in Bender et al. (2014) and as 85.9% in Gwadz et al. (2007).

Runaway youth have been reported to be vulnerable to mental health problems due to significant traumatic experiences and stressors. A previous research demonstrated that they were found to have mental illnesses at higher rates than youth who had not run away (Whitbeck, Johnson, Hoyt, & Cauce, 2004). In a sample of runaway youth living in shelters, the prevalence of those with clinical psychiatric symptoms was reported to be 36% (Lee & Kwack, 2001). Kim et al. (2005) reported that runaway youth living in shelters had clinically high levels of hostility, interpersonal sensitivity, paranoid ideation, psychoticism, and somatization. Ko et al. (2016) reported that the prevalence of shelter-residing runaway youth with depression was reported to be 42% in their female sample and 20% in their male sample. Runaway youth with depressive symptom were more likely to have alcohol use problems than those without depression, and the prevalence of alcohol use disorders among shelter-residing runaway youth was reported to be 37.1% (Ko et al., 2016).

2.2. Psychological interventions for runaway youth

Previous studies have evaluated psychological interventions to address the mental health problems among runaway youth. The present chapter aims to review and summarize the literature of psychological interventions directed towards runaway youth in order to gain directions in developing a psychological intervention for them.

The criteria for inclusion in this literature review of psychological interventions for runaway youth were as follows: (1) samples consisted of runaway adolescents; (2) psychological interventions were present; (3) a control group either receiving usual care or not receiving any interventions was present; (4) mental health-related outcomes were reported; and (5) randomized controlled trials (RCTs) and controlled before-and-after studies (CBAs) were used. Because there was a limited number of RCTs, the current review considered CBAs in addition to RCTs in order maximize evidence of interventions for this hard-to-reach population.

This review excludes studies of adolescents in homeless families residing in family shelters because they have not run away from their family and lived together with their family in family shelters. Studies in which the total participants included some runaway adolescents were excluded in order to evaluate interventions for runaway adolescents separately. Since this review focused on psychological interventions, studies evaluating general community services, shelter services, vocational training, and HIV prevention programs were excluded. Studies comparing different interventions without a control group, one-group before-and-after studies, and secondary analysis studies were also

excluded.

A search of databases including PubMed, EMBASE, Cochrane Library, PsycINFO, and CINAHL was conducted with combinations of the following medical subject headings (MeSH) and word terms: “homeless youth[MeSH Terms],” “homeless,” “street,” “runaway,” “runaway behavior[MeSH Terms],” “shelter*,” “youth*,” “adolescent*,” “intervention*,” “program*,” "treatment*,” and “therap*.” The search was limited to articles published in English between January 2000 and August 2016.

After excluding duplicate titles, the initial screening of remaining articles was based on their titles and abstracts, after which full texts of the retained articles were assessed for eligibility. Data extracted included: author, year, country, setting, study design, sample size, demographic characteristics of participants, mental health-related outcomes, time points for assessment, intervention content, who delivered the intervention, mode of delivery, frequency of delivery, duration of intervention, duration per session, and quantitative results of all relevant outcomes.

This review systematically described the characteristics of the above-mentioned studies and interventions. The interventions were grouped by intervention type, and a narrative synthesis regarding the effects by type of intervention was conducted. The results of studies that were RCTs reporting the mean and standard deviation (SD) of outcome variables in both experimental and control groups at post-test were synthesized quantitatively. Because of the clinical diversity of interventions and outcomes, subgroup meta-analyses were conducted by grouping studies with the same types of interventions

and outcomes. Meta-analyses were performed using Review Manager (RevMan) Version 5.3 (Copenhagen: The Nordic Cochrane Centre, The Cochrane Collaboration, 2014). Where trials used the same scale for the same continuous outcome, mean differences (MD) and 95% confidence intervals (95% CI) were calculated. When studies reported their outcomes using different scales, data were pooled using standardized mean differences (SMDs). To identify statistical heterogeneity, the I^2-statistic was used (Higgins & Green, 2011). The random-effects pooled estimate was used with data exhibiting substantial statistical heterogeneity ($I^2 > 50\%$); otherwise, a fixed-effects model was used when combining trials.

Figure 1 shows the search process in the form of a PRISMA flow diagram. A search of five databases yielded 2737 items (PubMed: 514, EMBASE: 793, Cochrane Central: 137, CINAHL: 396 and PsycINFO: 897), and 1780 items remained after 957 duplicates were removed. On the basis of an initial screening of titles and abstracts, 79 studies were retained. 68 studies were then excluded as not meeting the eligibility criteria following an examination of their full texts. Finally, 11 studies were included in this review.

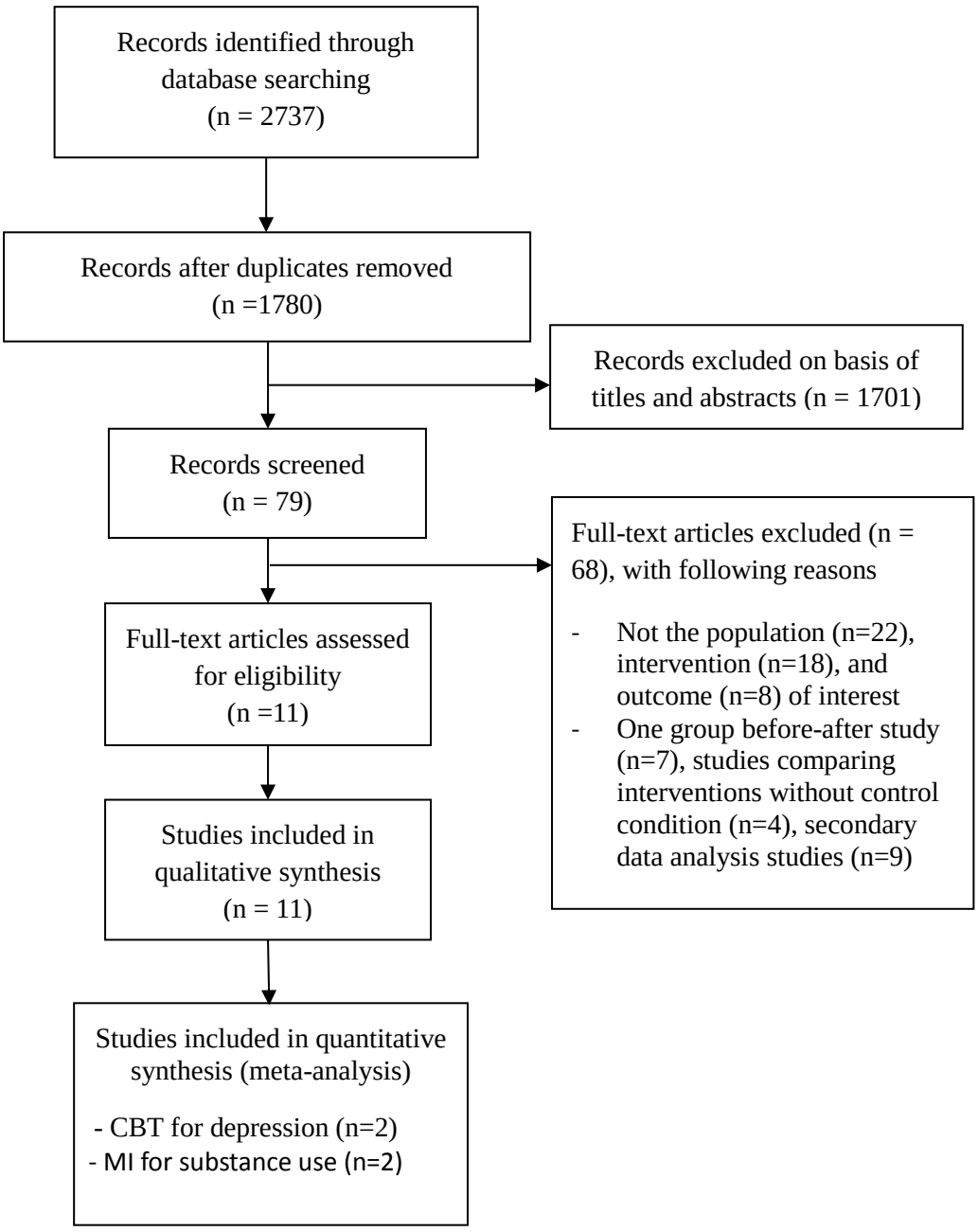

Figure 1. Study flow diagram

Table 1 shows the main characteristics of reviewed articles. Most of the studies (n=7) were from the US, two were from Canada, and two were from the Philippines and South Korea, respectively. All studies recruited samples from community organizations such as drop-in centers and shelters. As for study design, there were 7 RCTs and 4 CBAs. Studies varied in size, and sample size ranged from 15 to 285. All participants in the included studies were adolescents or young adults ages 12 to 24 years. Most of the studies (n=9) included both men and women; the two remaining studies included only women and only men, respectively. Nine of the studies addressed outcomes relating to substance use, seven studies addressed outcomes relating to depression, and four studies addressed delinquent behaviors. Self-esteem, resilience, social connectedness, and internalizing and externalizing behaviors were measured in three studies, respectively. Three studies had two time points for assessment before and after the intervention, four studies had three time points, and four studies had four.

Table 1. Detailed description of reviewed articles

First author (year)	Country ; Setting	Study design	Sample size	Participants	Mental health-related outcomes	Time points for assessment
Baer (2007)	USA; a drop-in center	RCT	N=127 (E:75, C:52)	Aged 14-19; 44% female	Substance use	Baseline, 1 and 3 months post-baseline
Brillantes-Evangelista (2013)	Philippines; five shelters	CBA	N=33 (E_{I}:11, E_{II}:11,	Aged 13-18; 64% female	Depression; posttraumatic symptoms	Baseline, 1 and 2 months

			C:11)			post-baseline
Hyun (2005)	South Korea; a shelter	RCT	N=27 (E:14, C:13)	Mean age 15.5; all males	Depression; self-efficacy; self-esteem	Baseline, 2 months post-baseline
McCay (2011)	Canada; two community agencies	CBA	N=15 (E:9, C: 6)	Aged 16-24; 33% female	Depression; hopelessness; psychological distress; resilience; self-esteem; self-harm; social connectedness; substance use; suicidality	Baseline, 6 weeks post-baseline
McCay (2015)	Canada; two community agencies	CBA	N=139 (E:60, C:29)	Aged 16-24; 49% female	Depression; hopelessness; psychological distress; psychological, social, and occupational functioning; resilience; self-esteem; social connectedness; substance use; suicidality	Baseline, 3, 7-9, and 15-19 months post-baseline
Milburn (2012)	USA; community-based organizations, direct recruitment	RCT	N=151 (E:68, C:83)	Aged 12-17; 66% female	Delinquent behaviors; sexual risk behaviors; substance use	Baseline, 3, 6, and 12 months post-baseline
Peterson (2006)	USA; drop-in centers,	RCT	N=285 (E:92, C_I:99,	Aged 14-19; 45% female	Substance use	Baseline, 1 and 3 months

	street intercept locations, direct recruitment		C_{II}:94)			post-baseline
Rew (2014)	USA; a drop-in center and a temporary housing facility	CBA	N=80 (E:40, C:40)	Aged 18-23; all female	Alcohol refusal self-efficacy; future time perspective; hope; optimism; psychological capital; resilience; safe sex behavior; safe sex self-efficacy; social connectedness; substance use	Baseline, 1 and 2 months post-baseline
Slesnick (2005)	USA; two shelters	RCT	N=124 (E:65, C:59)	Aged 12-17; 59% female	Delinquent behaviors; depression; family functioning; internalizing and externalizing behaviors; sexual risk behaviors; substance use	Baseline, 3, 9 and 15 months post-baseline
Slesnick (2007)	USA; a drop-in center	RCT	N=180 (E:96, C:84)	Aged 14-22; 34% female	Coping; delinquent behaviors; depression; internalizing and externalizing behaviors; social stability; substance use	Baseline, 6 months post-baseline

Slesnick (2009)	USA; two shelters	RCT	N=119 (E_I:37, E_{II}:40, C: 42)	Aged 12-17; 55% female	Delinquent behaviors; depression; family functioning; internalizing and externalizing behaviors; substance use	Baseline, 3, 9 and 15 months post-baseline

Notes: RCT, randomized controlled trials; CBA, controlled before-and-after studies; E, Experimental group; C, control group; When a study had two treatment groups, E_I means experimental group 1 and E_{II} means experimental group 2; When a study had two control groups, C_I means control group 1 who were assessed at all times and C_{II} means control group 2 who were assessed at follow-up only.

Table 2 shows the intervention characteristics of the reviewed articles. Interventions in included studies were categorized as follows: art therapy (n=1), interventions under the cognitive behavior therapy (CBT) umbrella (n=3), family therapy (n=3), motivational interviewing (n=2), and strengths-based intervention (n=2).

Table 2. Intervention characteristics of reviewed articles

First author (year)	Intervention	Intervention provider	Mode of delivery	Frequency of delivery	Duration of intervention	Duration per session
Art therapy						
Brillantes-Evangelista (2013)	E_{I}: Visual arts therapy; E_{II}: Poetry therapy	Psychologists	Group sessions	8sessions	2 months	3 hours
CBT-based Interventions						
Hyun (2005)	Cognitive-behavioral therapy	Nurse	Group sessions	8sessions	2 months	50 minutes
McCay (2015)	Dialectical behavior therapy	Interdisciplinary team of youth workers, nurses, and social workers	Individual sessions	12 sessions	3 months	Not mentioned
Slesnick (2007)	Community reinforcement approach	Counselors	Individual sessions	16 sessions	6 months	Not mentioned
Family therapy						
Milburn (2012)	Home-based family therapy	Not mentioned	Individual and family sessions	5 sessions	5 weeks	Between 1½ and 2 hours
Slesnick (2005)	Home-based ecologically-based family therapy	Counselors	Individual and family sessions	15 sessions	3 months	Not mentioned

Slesnick (2009)	$E_{I:}$ Home-based ecologically-based family therapy; $E_{II:}$ office-based functional family therapy	Counselors	Individual and family sessions	16 sessions	3 months	50 minutes
Motivational interviewing						
Baer (2007)	Brief motivational intervention	Counselors	Individual sessions	4 sessions	1 month	32 minutes
Peterson (2006)	Brief motivational intervention	Counselors	Individual sessions	4 sessions	1 month	30 minutes
Strengths-based intervention						
McCay (2011)	Relationship-based intervention	Clinicians	Group sessions	6 sessions	6 weeks	1.5 hours
Rew (2014)	Intervention to enhance psychological capital	Nurses	Group sessions	4 sessions	1 month	1hour

Notes: E, Experimental group; When a study had two treatment groups, E_I means experimental group 1 and E_{II} means experimental group 2.

One study compared a group receiving visual arts psychotherapy and a group receiving poetry psychotherapy with a control group (Brillantes-Evangelista, 2013). The reviewed CBT-based interventions included CBT (Hyun, Chung, & Lee, 2005), dialectical behavior therapy (DBT) (McCay et al., 2015), and the community reinforcement approach (CRA) (Slesnick, Prestopnik, Meyers, & Glassman, 2007). Family therapy interventions included home-based family therapy (Milburn et al., 2012), home-based ecologically-based family therapy (EBFT) (Slesnick & Prestopnik, 2005, 2009), and office-based functional family

therapy (FFT) (Slesnick & Prestopnik, 2009). One study compared a group receiving EBFT and a group receiving FFT with a control group (Slesnick & Prestopnik, 2009). The two reviewed motivational intervention studies focused on increasing motivation to change substance use (Baer, Garrett, Beadnell, Wells, & Peterson, 2007; Peterson, Baer, Wells, Ginzler, & Garrett, 2006). The reviewed strength-based interventions included a relationship-based intervention (McCay et al., 2011) and an intervention to enhance psychological capital (Rew et al., 2014).

In five of the studies, the intervention providers were counselors. They were nurses in two studies, a clinician in one study, a psychologist in one study, and an interdisciplinary team in another study. One study did not specific the identity of the intervention provider. The interdisciplinary team mentioned above consisted of youth workers, nurses, and social workers, and role of the nurses was to assess treatment integrity.

Four studies employed interventions in group settings, four studies employed individual psychotherapy, and three studies involved individual youth and their families. Frequency of delivery ranged from 4 to 16 sessions, duration of intervention ranged from 1 month to 6 months, and duration per session ranged from 30 minutes to 3 hours (excepting studies in which these figures were not mentioned).

This review describes the effects of the interventions by type of intervention. With regard to art psychotherapy, Brillantes-Evangelista (2013) found that the visual arts group reported a significant decrease in posttraumatic symptoms, whereas the poetry group reported a significant decrease in depression.

Three studies evaluated interventions under the CBT umbrella. Treatment effects of CBT were shown in depression and self-efficacy, but not in self-esteem (Hyun et al., 2005). Although DBT significantly improved self-esteem, social connectedness, resilience, psychological distress, depression, hopelessness, and suicidality (but not substance use), the control group also reported significant improvements in depression and hopelessness (McCay et al., 2015). Slesnick et al. (2007) reported that CRA significantly improved depression, internalizing behaviors, social stability, and substance use compared to the control condition, whereas there were no treatment effects on delinquent behaviors, externalizing behaviors, and coping.

Three studies evaluating family therapy reported significant effects on reducing substance use (Milburn et al., 2012; Slesnick & Prestopnik, 2005, 2009). Additionally, both home-based family therapy and office-based family therapy significantly reduced substance use compared to the control condition (Slesnick & Prestopnik, 2009). Milburn et al. (2012) reported the effectiveness of family therapy in reducing delinquent behaviors and sexual risk behaviors, whereas the other two studies reported no effects on delinquent behaviors, internalizing and externalizing behaviors, depression and family functioning (Slesnick & Prestopnik, 2005, 2009).

With regard to motivational interviewing, one study found a significant reduction in illicit drug use other than marijuana but no reduction in alcohol or marijuana use (Peterson et al., 2006). Another study reported no treatment effects on uses of alcohol and illicit drug use (Baer et al., 2007).

With regard to strengths-based intervention, a relationship-based intervention had a treatment effect on social connectedness, but there were no treatment effects on depression, hopelessness, psychological distress, resilience, self-esteem, self-harm, substance use, or suicidality (McCay et al., 2011). Additionally, an intervention to enhance psychological capital improved safe sex self-efficacy compared to the control condition, but there were no significant differences between the experimental and control conditions in alcohol refusal self-efficacy, future time perspective, hope, optimism, psychological capital, resilience, safe sex behavior, social connectedness, or substance use.

A pooled analysis of the two studies showed that CBT-based interventions did not significantly reduce depression (SMD -0.28, 95% CI -0.87 to -0.30) (Figure 2). As for the effects of motivational interviewing on drug use, a meta-analysis of the two studies (Baer et al., 2007; Peterson et al., 2006) showed that motivational interviewing did not significantly reduce marijuana use days over the previous 30 days (MD -0.37, 95% CI -3.30 to 2.57) or illicit drug use excluding marijuana during the previous 30 days (MD 1.21, 95% CI -0.32 to 2.75) (Figure 3 and 4).

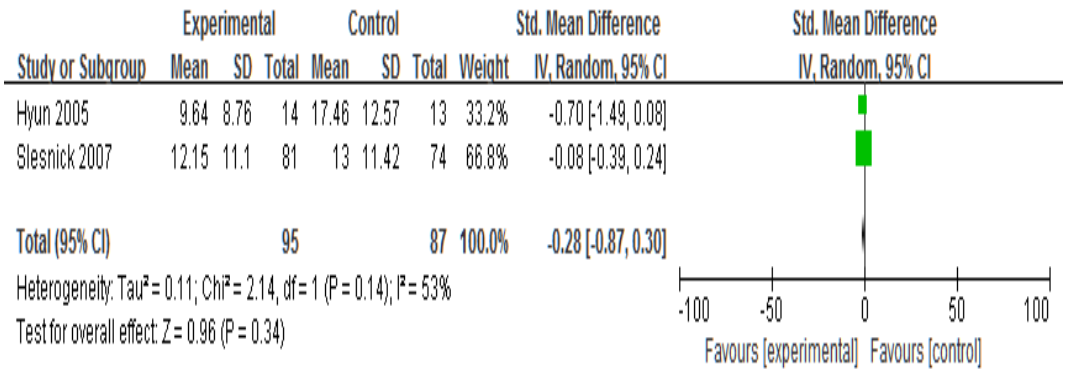

Figure 2. Forest plot of comparison: Effects of CBT-based intervention for decreasing depression

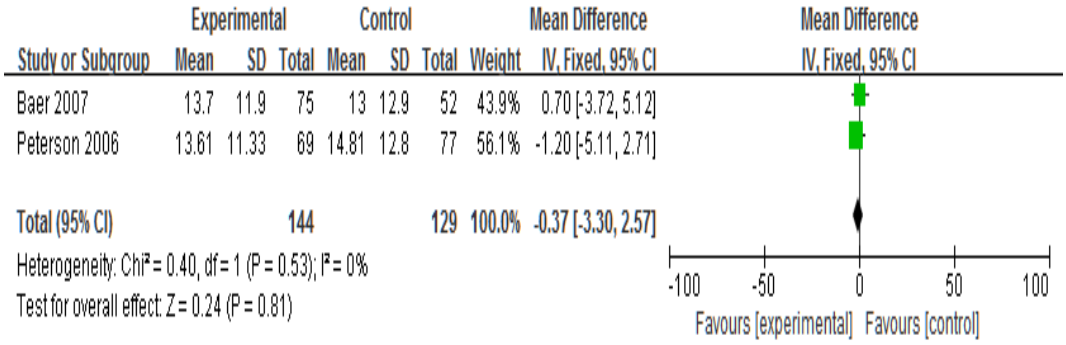

Figure 3. Forest plot of comparison: Effects of motivational interviewing for decreasing substance use, outcome: days of marijuana use in the past 30 days

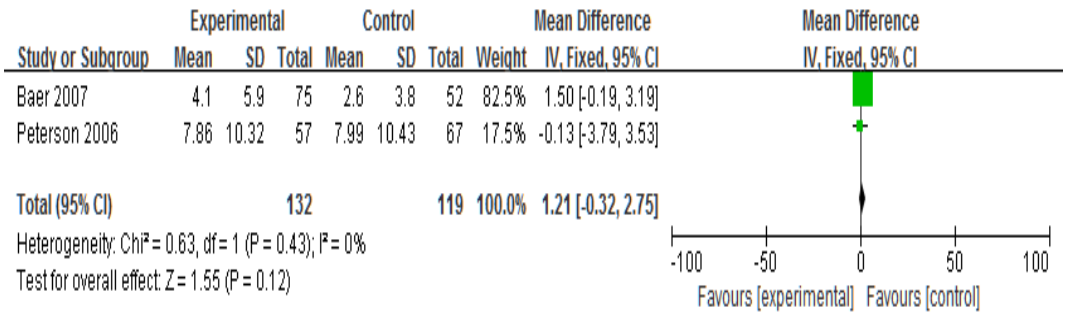

Figure 4. Forest plot of comparison: Effects of motivational interviewing for decreasing substance use, outcome: days of illicit drug use excluding marijuana in the past 30 days

To summary, five types of interventions were identified in the eleven reviewed studies: art therapy, CBT-based interventions, family therapy, motivational interviewing, and strengths-based interventions. Among the included studies, those in which nurses played a role were those focusing on CBT-based interventions and strengths-based interventions.

The strengths-based interventions focusing on youths' potential resources and protective factors have been suggested to address mental health problems among runaway youth (McManus & Thompson, 2008; Slesnick, Dashora, Letcher, Erdem, & Serovich, 2009). There was a paradigm shift from the traditional problem-oriented perspective to the positive youth development perspective, and the Family and Youth Services Bureau in U.S. Administration for Children and Families also emphasizes the positive youth development perspective for runaway and homeless youth. Resilience theory provides a conceptual framework in developing strength-based interventions and understanding how protective factors affect positive youth development (Zimmerman, 2013).

2.3. Resilience

Resilience refers to “the process of effectively negotiating, adapting to, or managing significant sources of stress or trauma” (Windle, 2010, p. 152), and “a phenomenon of positive adjustment in the face of adversity” (Peterson & Bredow, 2013, p. 257). According to a concept analysis regarding resilience, the main antecedent to resilience is adversity including challenge, changes, and disruptive life events, and consequences of resilience are effective coping, mastery, and positive adaptation (Earvolino-Ramirez, 2007).

Resilience has mainly been studied in children and adolescents, and the concept of resilience has been considered in nursing literature to overcome adversities such as trauma exposure and achieve positive mental health outcomes (Haase, Kintner, Monahan, & Robb, 2013; Humphreys, 2003; Rew, Taylor, Seehafer, Thomas, & Yockey, 2001). Data from battered women in shelters revealed a significant adverse correlation between resilience and psychological distress (Humphreys, 2003). A qualitative study of runaway youth compared adolescents who continue to exhibit high risk behaviors with those who maintain resilience and adaptation despite traumatic incidents (Williams et al., 2001).

3. CONCEPTUAL FRAMEWORK

In the resiliency model by Richardson (2002), disruption occurs depending on the interaction of antecedent adversity and protective factors. Disruption is described as a deviation from homeostasis by which a person adapts physically, mentally, and spiritually to their situations. When disruption occurs, people reintegrate from disruptions in one of four ways: resilient reintegration, reintegration back to homeostasis, reintegration with loss, or dysfunctional reintegration. Resilient reintegration, gaining some insight or growth through disruptions, occurs when people have additional protective factors dealing with adversity. Reintegration back to homeostasis means healing without growth and back to the condition before disruption. Reintegration with loss refers to a state of loss of motivation and hope, and people in dysfunctional reintegration depend on substance and represent destructive behaviors. People with a lack of protective factors are more likely to dysfunctionally reintegrate in the face of risk factors (Figure 5).

According to the risk-protective model (Figure 6), risk factors increase the likelihood of adverse outcomes whereas protective factors mitigate the effects of risk factors on outcomes (Erdem, 2008; Garmezy, Masten, & Tellegen, 1984).

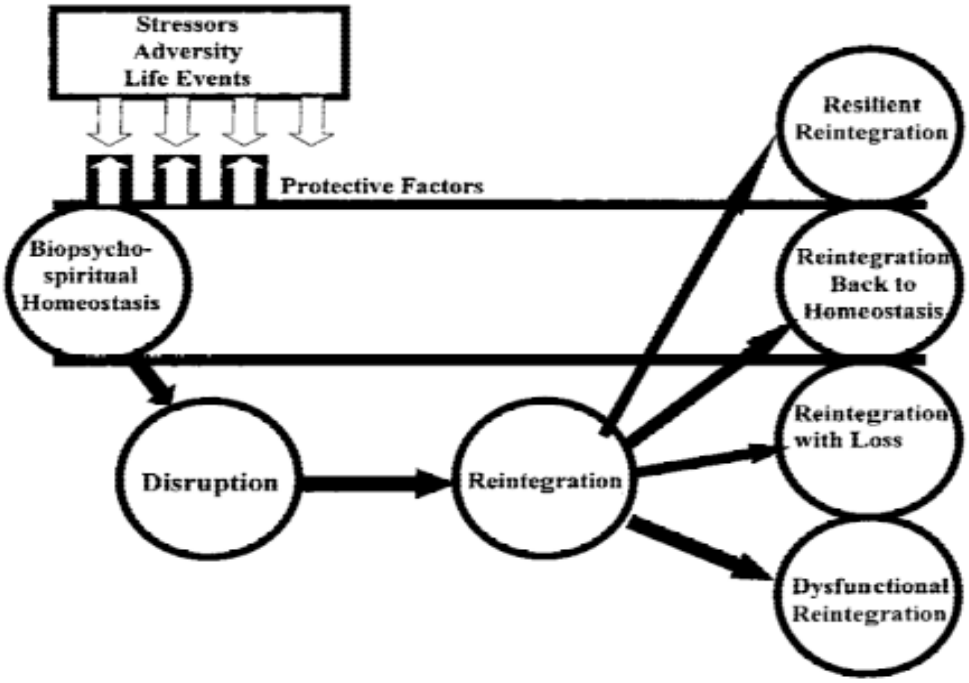

Figure 5. The Resiliency Model (Richardson, 2002)

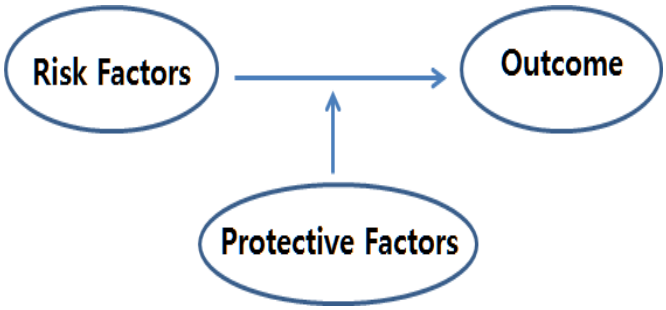

Figure 6. The Risk-Protective Model (Erdem, 2008)

The conceptual framework in this study is presented in Figure 7. This study assumed that most shelter-residing runaway youth have experienced abuse and neglect by parents or caregivers therefore they are likely to have experienced psychological disruption. To deter the impact of risk factors on outcomes, a resilience enhancement program focused on strengthening protective factors including self-esteem, self-regulation, relational skills, and problem-solving and goal-setting skills. Outcome variables in this study included resilience, depression, anxiety, and problem drinking.

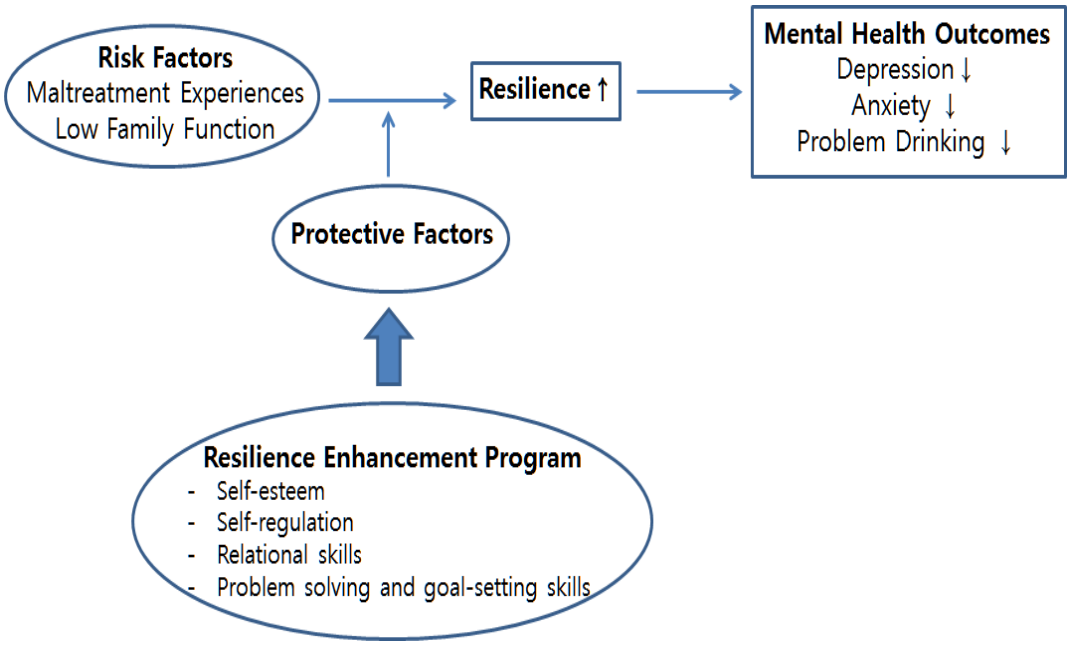

Figure 7. Conceptual Framework in this study

4. DEVELOPMENT OF A RESILIENCE ENHENMENT PROGRAM

The present chapter describes the development process of the resilience-enhancement program. The program's components target individual protective factors associated with resilience that the program aims to modify.

4.1. Methods

The literature reporting individual protective factors among runaways and homeless youth was analyzed. In addition, individual interviews with female runaway youth were conducted to explore their experiences of difficulties and having recovered from those difficulties, and subsequently to extract the performance objectives of the program. The interviews included the following open questions: (1) "Tell me about any difficult emotional situations you have?"; (2) "What kind of emotional help do you need?"; (3) "During difficult times in the past, what kind of emotional help did you want to receive?"; (4) "What strengths or positive attributes helped you recover in the face of difficulties?"; and (5) "What strengths or positive attributes will help you if you encounter difficulties in the future?"

Permission for the implementation of this research was obtained from the Korea Youth Shelter Association and from the two female youth shelters. Five females were recruited for individual interviews from two shelters providing shelter, food, and hygiene supplies

for runaway youth. The criteria for participation were that participants be (1) female; (2) between the ages of 16-24, which excluded younger adolescents under the age of 15 in order to recruit those with mores substantial experiences of difficulties and having recovered from those difficulties; and (3) that they reside in shelters for runaway youth. The interviewer was a female principal investigator (PI) pursuing a doctorate in nursing with certification as a psychiatric and mental health nurse and a master's degree in nursing. The face-to-face interviews were conducted in counseling rooms within the youth shelters in which participants were residing. Each participant was interviewed once, and the interviews lasted from 45 to 60 minutes. The interviews were audio recorded and later transcribed.

The Institutional Review Board of the Yonsei University College of Nursing approved this study (Registration #2016-0036). The purpose and procedure of the study, the anticipated risks and benefits of participation, confidentiality, the fact that participants were free to withdraw consent at any time, and the compensation they would receive for their time were explained to all participants. All individuals who accepted these parameters and volunteered were recruited into the study, and written informed consent was obtained from all participants. Participants were given a 10,000 Korean Won (about 9 US dollars) gift certificate in appreciation for their participation.

Data from interviews was analyzed using directed content analysis, which uses key concepts derived from relevant research findings as coding categories (Hsieh & Shannon, 2005). The coding categories were determined according to the findings from literature

review of individual protective factors. Prior to the analysis, the interviews were read repeatedly, highlighting meaningful participant quotations. All highlighted text was categorized using the coding scheme derived from the literature review. Information collected from both the literature review and the individual interviews were then translated into the performance objectives of the program.

Contents and activities designed to achieve the performance objectives were derived. An outline of the program, a program manual for providers, and a worksheet for participants were developed. These were then reviewed by two professors and an assistant professor specializing in mental health nursing and two experts working in youth shelters with master's degrees. The program was modified based on feedback from experts, and final program materials considered for implementation were developed.

4.2. Results

4.2.1. Protective factors derived from literature review

In the results of an integrative literature review, four individual protective factors that help runaway and homeless youth become resilient were identified: self-esteem, self-regulation, relational skills, and problem-solving and goal-setting skills.Self-esteem has emerged in several studies as a key individual protective factor of resilience among runaway and homeless youth. Cho and Park (2010) reported that self-esteem was a significant factor determining whether students with runaway experiences experienced depression and anxiety. Several studies have found that self-esteem predicts suicidality

(Cleverley & Kidd, 2011; Leslie, Stein, & Rotheram-Borus, 2002), feelings of loneliness, feeling trapped, suicidal ideation, subjective health status, and substance use in homeless youth (Kidd & Shahar, 2008). Broadly defined, self-esteem refers to a person's overall attitude toward him or herself together with a subjective evaluation of his or her own worth (Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). Runaway and homeless youth who have experienced traumatic events are likely to have low self-esteem (Williams et al., 2001).

Self-regulation, the ability to manage or control emotions, thoughts, and behaviors, is the first individual protective factor in the protective factors framework developed by the U.S. Administration on Children, Youth and Families (ACYF). Some evidence has shown that youth who have trouble regulating their behaviors and negative emotions such as anger, sadness, and anxiety experience more depressive symptoms and problem behaviors (Gardner et al., 2008; Silk, Steinberg, & Morris, 2003; Wills, Pokhrel, Morehouse, & Fenster, 2011).

Relational skills, which encompass both interpersonal skills and the ability to form positive connections, are a critical protective factor in the ACYF protective factors framework. It is difficult for homeless and runaway adolescents who have experienced abuse, neglect, and betrayal to trust or rely on others (Williams et al., 2001). Previous studies have shown that homeless adolescents exhibiting more social connectedness with family, school, other adults, and pro-social peers were more resilient and had fewer mental health problems such as depression, anxiety, psychological distress, and risky

sexual behaviors than those with less social connectedness (Dang, 2014; Dang, Conger, Breslau, & Miller, 2014; Rew et al., 2001; Yuk, 2013). In addition, homeless youth with pro-social peers had less sexual risk behaviors over time compared with those with problematic peers (Rice, Milburn, & Rotheram-Borus, 2007).

Lightfoot et al. (2011) reported that problem-solving and goal-setting skills mediated the association between independent variables of self-esteem and social support and dependent variables of multiple problem behaviors among homeless and runaway youth, suggesting that problem-solving and goal-setting skills are protective against problem behaviors. The ACYF protective factors framework also suggests that problem-solving ability is an individual protective factor.

4.2.2. A needs assessment

Five female youth living in two youth shelters were given individual interviews to explore their experiences of difficulties and having recovered from those difficulties. They were between the ages of 16 and 20. Four of the five were attending high school, and one had graduated. Their periods of residence in their present shelters varied, ranging from 1.5 to 23 months (Table 3). All five mentioned that they had experienced maltreatment such as parental abuse and neglect.

Table 3. General characteristics of individual interview participants

ID	Age	Education level	Length of residence time in current shelter
A	20	Graduated high school	4 months
B	18	Current high school student	23 months
C	17	Current high school student	1.5 months
D	16	Current high school student	5 months
E	18	Current high school student	9 months

Following a directed content analysis of the individual interviews, nine themes emerged: (1) negative attitudes toward the self, (2) difficulties in regulating emotion, (3) negative thoughts feeding negative emotions, (4) being thankful for what one has, (5) difficulties in interpersonal relationships, (6) barriers to seeking help, (7) emotional support and help from other people and institutions, (8) difficulties in problem solving, and (9) anxiety and worry about the future. Participants were likely to describe their experiences negatively rather than positively; as a result, seven of the nine themes are phrased negatively while the other two are phrased positively. All themes were categorized using the four protective factors (self-esteem, self-regulation, relational skills, and problem-solving and goal-setting skills) derived from the literature review. Participant quotations to illustrate the themes are attached in appendix, and Table 4 shows how the results from individual interviews informed the program's performance objectives.

Table 4. Association between literature review, individual interviews, and the performance objectives of a resilience enhancement program

Literature review	Individual interviews	Program's performance objectives
Self-esteem	Negative attitudes toward the self	Building positive attitude toward the self
Self-regulation	Difficulties in regulating emotion	Enhancing emotion regulation skills
	Negative thoughts feeding negative emotions	Replace the negative thoughts with positive ones
	Being thankful for what one has	Promoting positive thinking
Relational skills	Difficulties in interpersonal relationships	Enhancing interpersonal skills
	Barriers to seeking help	Facilitating help-seeking
	Emotional support and help from other people and institutions	Building positive connectedness with trustworthy people and community organizations
Problem-solving and goal-setting skills	Difficulties in problem solving	Enhancing problem-solving skills
	Anxiety and worry about the future	Having future plans that are realistic and achievable

4.2.3. Development phase

The initially developed program outline, manual, and worksheets were modified as follows following review by experts: (1) Examples in initial worksheets were changed to ones that shelter-residing youth are more likely to have experienced; (2) the terms in the worksheet were changed to more easy and understandable terms; (3) to increase participants' concentration and interest, the program consisted mainly of activities rather than explanations of the program content; (4) the program provided time for participants to share their thoughts and experiences and to support other group members; and (5) the program was updated to include group discussions, role plays, videos, and music.

The fully developed program consisted of eight group sessions consistently with previous studies of improving protective factors (Han, 2006; Lee, Kim, Kweon, & Kim, 2010). The length of each session was expected to be 1.5 hours consistently with a previous study (Han, 2006). A resilience enhancement program consists of the following concepts: orientation, self-esteem, self-regulation, relational skills, problem-solving and goal-setting skills, and reflection and wrap-up (Table 5).

Table 5. Outline of a resilience enhancement program

Session	Concept	Goals	Contents & Activities
1st	Orientation	a. Increasing overall understanding of the program and resilience b. Involving participants in setting program rules	a. Introducing program objectives and process b. Understanding the meaning and importance of resilience c. Getting to know each other d. Setting program rules and establishing contract
2nd	Self-esteem	a. Building positive attitude toward self and others	a. Identifying inner strengths and positive attributes b. Discuss weaknesses c. Identifying experiences of accomplishment
3rd	Self-regulation: A) Emotion regulation	a. Identify and express emotion b. Application of the emotion regulation techniques to daily life	a. Identifying and naming emotions b. Identify levels of emotions using an "emotion thermometer" c. Discuss how to regulate emotions d. Deep breathing and progressive relaxation training
4th	Self-regulation: B) Cognitive restructuring	a. Recognize irrational beliefs b. Changing irrational beliefs into rational beliefs c. Promoting positive thought and resilience thinking style	a. Identify responses to stressful events and negative thoughts using ABC worksheet b. Replace negative thoughts with positive alternatives using ABC worksheet and positive self-talk c. Being thankful for what one has using keeping a "thanks diary"

5th	Relational skills: A) Interpersonal skills	a. Enhancing awareness in interpersonal relations b. Enhancing communication skills	a. Being aware of interpersonal relationship using the Johari Window model b. Practice active-empathic listening c. Developing assertiveness d. Practice "I" statements'
6th	Relational skills: B) Social connectedness	a. Being able to ask for help, and knowing where to seek it b. Rebuilding social connectedness with trustworthy people and community organizations	a. Discuss prosocial peers b. Discuss trustworthy community organizations c. Making a list where to seek help including prosocial peers, teachers, and community services
7th	Problem-solving and goal-setting skills	a. Dealing effectively with problems b. Having plans for realistic and achievable goals	a. Applying problem-solving process to address problems in current situations b. Translating problems into goals c. How to set SMART (specific, measurable, achievable, relevant, and time-bound) goals d. Create plans to accomplish goals
8tth	Reflection & wrap-up	Reflect their own changes	a. Review resilience enhancement strategies b. Identify one's changes during the program c. Share specific plans to apply the learned interventions in daily life after the end of program

The initial session was an introductory session designed to increase participants' motivation for the program. The session began by explaining the purpose of the program and its process as well as the meaning and importance of resilience. The session included watching videos relating personal stories of resilient people in order to help participants to understand the concept of resilience. The session emphasized participants' autonomy and helped participants to set necessary program rules through group discussion.

Session 2 focused on enhancing self-esteem. To develop a realistic and positive sense of self and others, the session explained the importance of identifying participants' own and others' strengths and positive attributes. Activities included talking about their personal strengths and positive attributes and giving compliments to other group members' positive attributes. In addition, participants wrote down their own weaknesses without writing their name on a given card and discussed each weakness so that they could listen to other group members' objective opinions about their own weaknesses. Finally, the session helped participants to think about their past successes to identify accomplishments from the past. The program provider expressed plenty of support and affection to participants during the session.

Sessions 3 and 4 focused on improving self-regulation. In session 3, activities included identifying and naming one's own emotions and identifying levels of negative emotions using an "emotion thermometer." Participants discussed their ideas on how to regulate emotions and feel better, and then they practiced deep breathing and progressive relaxation techniques (Bernstein, Borkovec, & Hazlett-Stevens, 2000).

Session 4 focused more on cognitive restructuring to regulate negative emotions. Based on Ellis's ABC model, this session helped participants to identify negative emotional and behavioral consequences (C) of activating events (A) and irrational beliefs (B). The session then worked to help participants replace negative thoughts with positive alternatives using the ABC worksheet and positive self-talk. To promote positive thought and a resilient thinking style, participants kept a "thanks diary". Participants were asked to add to daily entries to their thanks diary at home for the duration of the program.

Sessions 5 and 6 covered components of enhancing relational skills. Session 5 focused more on interpersonal skills while session 6 focused more on forming positive connectedness with others. Session 5 began by helping participants to enhance awareness in interpersonal relations using the Johari Window model (Luft & Ingham, 1961). Subsequently, effective communication techniques such as active-empathic listening, assertiveness to resist pressure, and "I" statements for assertive communication were introduced, and participants practiced these skills using role-plays.

The goals of session 6 were to lead participants to engage in more help-seeking and to help them rebuild social connectedness. Activities during this session included discussions on prosocial peers and trustworthy community organizations after providing information about available community services. In addition, participants worked to develop a list of trustworthy people and community services from whom they ask for help. This was meant to help participants identify their current and potential support systems and to lead them feel more connected to others.

The goals of session 7 were to develop problem-solving and goal-setting skills. The session began by explaining the problem-solving process (problem identification, brainstorming all possible solutions, estimating pros and cons for each solution, selection of the best solution, implementation, and evaluation of consequences). Participants applied the step-by-step process to address problems in their current situations. After leading participants to translate their problems into goals, the session helped participants to set goals according to the SMART (specific, measurable, achievable, relevant, and time-bound) goal-setting method (Yemm, 2012). Subsequently, the session helped participants to create plans to accomplish their goals.

The final session provided time for participants to reflect upon how they had changed during the program after reviewing the learned resilience enhancement strategies. To enhance and maintain resilience and mental health, participants were encouraged to share plans for applying the learned interventions in daily life after the end of the program.

5. EVALUATION OF A RESILIENCE ENHENMENT PROGRAM

5.1. Materials and methods

5.1.1. Research design

After developing the program, this study conducted a quasi-experimental research with a non-equivalent control group non-synchronized design. To avoid contamination of the intervention, data on the control group were collected prior to the experimental group. To evaluate the effects of the intervention, adolescents were evaluated at pretest, posttest, and 1-month follow-up assessment. The reporting conformed to the Transparent Reporting of Evaluations with Nonrandomized Designs (TREND) statement (Des Jarlais, Lyles & Crepaz, 2004).

5.1.2. Participants

This study targeted female runaway youth. To recruit from this hard-to-reach population, this study used facility-based sampling (Shaghaghi, Bhopal, & Sheikh, 2011), recruiting participants from shelters for runaway youth. In order to be eligible for participation, adolescents were required to (1) reside in female youth shelters that offer shelter and basic subsistence items such as food and hygiene supplies, (2) be between the ages of 12 and 24, and (3) have plans to remain in the shelters for at least 2 months. Potential participants were excluded if (1) they had mental retardation that would impair

their ability to understand the intervention procedure or (2) they were currently receiving other psychiatric therapy.

All participants were recruited from five shelters for female runaway youth located in Gyeonggi Province and in Gwangju, South Korea. The PI contacted the heads of the shelters with the help of Korea Youth Shelter Association. After obtaining the permission of the heads of the shelters, the PI visited the shelter, explained the research to resident adolescents, and recruited volunteers.

The sample size was calculated using the software package G*Power, Version 3.1.3 (Faul, Erdfelder, Buchner, & Lang, 2009). To obtain 80% statistical power of repeated measures with an alpha level of 0.05 and a medium effect size of 0.25, the estimated sample needed was 28. Considering a drop-out rate of 10%, the study initially recruited a total of 32 participants (16 participants in the experimental group and 16 in the control group).

5.1.3. Intervention

A resilience enhancement program based on an integrative literature review and a needs assessment were designed for shelter-residing female runaway youth. The intervention incorporates four individual protective factors of resilience: self-esteem, self-regulation, relational skills, and problem-solving and goal-setting skills. The study developed a written program manual for the intervention provider and activity worksheets for the participants to ensure adherence to the intervention protocol and consistency in

program implementation. The group session curriculum was delivered twice per week for 4 weeks, resulting in 8 total sessions, and each session averaged 90 minutes. Sessions began with a warm-up period to share issues that had come up since the previous session and to review homework assignments as well as the content of the previous session. After delivering the session's primary content via group discussion, role plays, worksheets, a "thanks diary," videos, and music, a wrap-up period provided participants the opportunity to share their feelings and opinions about the session. Homework assignments were given every session to help participants apply their newly learned skills in daily life.

The program was delivered in three shelters in Gyeonggi Province. To increase group cohesion, this study used three small closed groups, each group consisting of 4-6 members. All sessions were delivered by the PI, a registered nurse with a master's degree and with certification as a psychiatric and mental health nurse.

5.1.4. Instruments

The dependent variables included resilience, depression, anxiety, and problem drinking. Additional socio-demographics and background variables included age, education level, family socioeconomic status, number of runaway episodes, amount of time spent not at home or in a shelter, length of residence time in current shelter, and family function. To measure family function youth perceived, family APGAR developed by Smilkstein (1978) and translated into Korean by Kang, Young, Lee, & Shim (1984) was used. It consists of 5 items on a 3-point Likert scale (0 = hardly ever; 2 = almost always). Total scores range

from o to 10, with greater scores indicating a higher-functioning family. There are three cut-off scores: 0 to 3 indicates a severely dysfunctional family, 4 to 6 indicates a moderately dysfunctional family, and 7 to 10 indicates a high-functioning family. Cronbach's alpha was 0.86 in Smilkstein (1978) and 0.91 in the present study.

1) Resilience

Resilience refers to the capacity to overcome adversity, adapt to one's environment, and to grow emotionally (Shin, Kim, & Kim, 2009). Resilience was measured using the Youth Korea Resilience Quotient-27 (YKRQ-27; Shin et al., 2009), which includes nine sub-concepts: causal analytical ability, emotional control, impulse control, gratitude, life satisfaction, optimism, relationships, communication ability, and empathy. The scale consists of 27 items rated on a 5-point Likert scale (1 = not at all; 5 = extremely). Total scores range from 27 to 135, with higher scores indicating higher levels of resilience. The convergent and discriminant validity of the scale were demonstrated among Korean middle school, high school, and college students in Shin et al. (2009). The internal consistency coefficient of the total YKRQ-27 was found to be 0.92 in Korean youth (Yeo & Park, 2013) and was 0.94 in the current study.

2) Depression

Depression was measured using the Beck Depression Inventory-Ⅱ (BDI-Ⅱ), which was developed by Beck, Steer, and Brown (1996) and translated into Korean by Kim, Lee,

Hwang, and Hong (2014). The Korean version of the BDI-Ⅱ consists of 21 items scored 0 to 3 according to how respondents felt during the previous 2 weeks. Possible scores range from 0 to 63, with higher scores indicating higher levels of depression. Scores on the BDI-Ⅱ are categorized into one of four groups: minimal depression (0-13), mild depression (14-19), moderate depression (20-28), and severe depression (29-63) (Beck et al., 1996). Cronbach's alpha coefficient for the Korean BDI-Ⅱ was 0.89 in Korean adolescents (Lee, Lee, Hwang, Hong, & Kim, 2017) and 0.94 in the present study.

3) Anxiety

Anxiety was assessed via the Beck Anxiety Inventory (BAI), which was developed by Beck, Epstein, Brown, and Steer (1988) and translated into Korean by Kim, Lee, Hwang, and Hong (2014). The Korean version of the BAI consists of 21 items rated on a 4-point Likert scale (0 = not at all; 3 = extremely) according to how respondents felt during the previous week. Possible scores range from 0 to 63, with higher scores indicating higher levels of anxiety. Scores on the BAI are categorized into one of four groups: minimal anxiety (0-7), mild anxiety (8-15), moderate anxiety (16-25), and severe anxiety (26-63) (Beck et al., 1988). The Korean BAI has been validated: Cronbach's alpha was 0.91 and test-retest reliability was 0.84 in a community-dwelling adult sample (Lee, Lee, Hwang, Hong, & Kim, 2016). The sample used in the current study had a Cronbach's alpha value of 0.93.

4) Problem drinking

Problem drinking was assessed using the Alcohol Use Disorders Identification Test Alcohol Consumption Questions (AUDIT-C), which is based on questions from 1 to 3 in AUDIT developed by World Health Organization (Saunders, Aasland, Babor, De la Fuente, & Grant, 1993). The AUDIT-C has been validated as an effective brief alcohol screening test to identify alcohol use disorders (Kwon et al., 2013). Responses to AUDIT-C questions are scored from 0 to 4. Total scores range from 0 to 12, with higher scores indicating more problematic drinking. The cut-off score for alcohol use disorders in females is 6 points (Kwon et al., 2013). The sample used in the current study had a Cronbach's alpha value of 0.88.

5.1.5. Ethical considerations

Data were collected from November 2016 to April 2017 after obtaining ethical approval from the Institutional Review Board (IRB) of Yonsei University College of Nursing (Registration #2016-0036). After obtaining the permission of the heads of the shelters, the PI explained to adolescents the purpose of the research and its procedures, the anticipated benefits and risks of participation, confidentiality, their freedom to withdraw consent at any time, and how they would be compensated for their time. All individuals who accepted these parameters and volunteered were recruited into the study, and written informed consent was obtained from all participants.

A study of ethical considerations for runaway adolescents suggested that adolescents

should be able to consent to research on their own without the consent of their parents since parental consent can make access to services for runaway adolescents difficult and thus may not be in the adolescents' best interest (Meade & Slesnick, 2002). Most traumatic experiences experienced by runaway adolescents are associated with abuse and neglect by their parents and guardians (Bender et al., 2014; Gwadz et al., 2007; Williams et al., 2001). The rate of Korean shelter-residing adolescents having been physically and emotionally abused by their parents or guardians was reported to be 41.4% and 52.4%, respectively (Jeon & Lee, 2012). Therefore this study obtained consent from adolescents and from shelter directors according to IRB guidelines.

Experimental and control participants were given gift certificates worth 5,000 Korean Won (about 4.5 US dollars) upon completing each survey, resulting in a total compensation of 15,000 Korean Won (about 13.5 US dollars) in gift certificates after completing all three data collections. Further treatment and care after completion of the study are beyond the scope of the study, but this study provided information regarding community mental health service for subjects who had severe mental health problems. The control participants were given the activity worksheets following completion of all of their assessments.

5.1.6. Data analysis

Data were analyzed using IBM SPSS Statistics for Windows, Version 23.0 (IBM Corp., Armonk, NY, USA). Significance was set at $p < 0.05$ and two-tailed. This study

conducted descriptive analyses of general characteristics, resilience, depression, anxiety, and problem drinking. Assumptions of normal distribution were difficult to verify due to the small sample size, and therefore non-parametric tests (the Mann-Whitney U test and Fisher's exact test) were used to test the homogeneity between the experimental and control groups in terms of general characteristics and baseline scores. To examine the assumption that data are missing at random, homogeneity tests were conducted using the Mann-Whitney U test and Fisher's exact test between those who completed all assessments and those who missed the follow-up assessments in terms of their general characteristics and baseline scores. Changes in outcome measures over time between groups were analyzed using Generalized Estimating Equations (GEE) with an autoregressive correlation matrix, treating outcomes as linear or gamma distribution with log link, as appropriate. The GEE method has been recommended for analyzing repeated measures data (Liu, Dixon, Qiu, Tian, & McCorkle, 2009; Naseri, Majd, Kariman, & Sourtiji, 2016), and GEE can yield valid results under the assumption that data are missing completed at random (MCAR) (Hedeker & Gibbons, 2006).

Beyond statistical significance, the magnitude of change should also be interpreted clinically in order to inform clinical decision-making (Page, 2014). To assess clinical significance, this study calculated the reliable change index (RCI), which is computed by dividing the difference between pretreatment and posttreatment scores by the standard error of the difference between the two scores (Jacobson & Truax, 1991). If the RCI is greater than 1.96, the magnitude of change is reliable and clinically significant (Jacobson

& Truax, 1991).

5.2. Results

5.2.1. Participant flow

Of the 16 adolescents enrolled and assigned in the control group, three participants dropped out prior to posttest, resulting in 13 control participants who completed all three assessments. After collection of data from the control group, 16 participants were enrolled in the study and assigned to the experimental group. There were two participant dropouts at posttest and one participant dropout at 1-month follow-up, resulting in 13 experimental group participants who completed all assessments. A total of six participants were lost to follow-up because they left the shelters during the study period. Data from all 32 participants were included in the available GEE data analysis.

5.2.2. Baseline data

The general characteristics of the 32 participants enrolled in the study are presented in Table 6. The mean age of all subjects between the ages of 12 and 21 was 16.69 years (SD = 2.56). Most participants were current middle or high school students (62.5%) and were of low reported family socioeconomic status (75.0%). The mean family function score was 1.97 (SD = 2.76), indicating severely dysfunctional family life. At baseline, experimental and control groups did not differ in general characteristics and family function.

Table 6. General characteristics at baseline

Characteristic	Total (*n* = 32)	Exp. (*n*= 16)	Cont. (*n*=16)	χ^2 or Z	*p*
	n (%) or M±SD	*n* (%) or M±SD	*n* (%) or M±SD		
Age	16.69±2.56	16.13±2.94	17.25±2.05	-1.39	.165
Education level					
Middle school student	8 (25.0)	6 (37.5)	2 (12.5)	3.72	.533
Graduated middle school, not enrolled in high school	2 (6.3)	1 (6.3)	1 (6.3)		
High school student	12 (37.5)	4 (25.0)	8 (50.0)		
Graduated high school	8 (25.0)	4 (25.0)	4 (25.0)		
College student	2 (6.3)	1 (6.3)	1 (6.3)		
Socioeconomic status					
Low	24 (75.0)	12 (75.0)	12 (75.0)	1.14	>.999
Middle	7 (21.9)	3 (18.8)	4 (25.0)		
High	1 (3.1)	1 (6.3)	0 (0.0)		
Number of runaway episodes	3.29±5.26	2.06±1.34	4.60±7.33	-0.85	.393
Amount of time spent not at home or in a shelter (months)	2.42±5.10	2.07±3.60	2.78±6.36	-1.29	.197
Length of residence time in current shelter (months)	3.64±5.10	2.50±2.80	4.78±6.57	-0.61	.544
Family function	1.97±2.76	2.56±2.61	1.38±2.87	-1.68	.093

Notes: Exp., Experimental group; Cont., control group

All participants' scores for resilience, depression, anxiety, and problem drinking as well as the homogeneity between the two groups in terms of these variables are presented in Table 7. The mean resilience score of all participants was 87.22 at baseline. The mean scores for depression and anxiety of all participants was 18.50 and 11.25, respectively, which were above the cut-off score of 14 and 8, respectively, indicating the presence of depressive and anxiety symptoms. The average score for problem drinking was 3.0, which was below the cut-off score. The experimental participants tended to report lower resilience scores and higher scores for depression, anxiety, and problem drinking than controls, but those differences were not statistically significant ($p > .05$).

Table 7. Baseline scores of dependent variables

Variables	Total (n = 32)	Exp. (n = 16)	Cont. (n = 16)	Z	p
		M±SD			
Resilience	87.22±18.10	80.88±17.86	93.56±16.49	-1.94	.052
Depression	18.50±12.48	22.00±13.66	15.00±10.45	-1.74	.083
Anxiety	11.25±10.24	15.13±12.07	7.38±6.26	-1.80	.073
Problem drinking	3.00±3.54	3.50±4.10	2.50±2.92	-0.50	.617

Notes: Exp., Experimental group; Cont., control group

5.2.3. Attrition

This study had dropout rates of 15.6% and 18.8% at posttest and 1-month follow-up, respectively. The participants missing at the posttest were also missing at the 1-month

follow-up, which means that the missing data occurred as time went on. The six dropouts did not differ from the 26 participants who completed all three data collections in terms of assignment conditions, baseline general characteristics, resilience, depression, anxiety and problem drinking ($p > .05$), meaning that sample attrition occurred regardless of prior characteristics and pretest scores, fulfilling the MCAR assumption of the GEE.

5.2.4. Statistical significance of change

Table 8 shows descriptive information for outcomes over time and the results of the GEE. Since the homogeneity tests showed no statistically significant differences in general characteristics between the experimental and control groups, no covariate was included in the GEE.

Table 8. Intervention effects on outcomes: results from GEE

Outcomes	Time points for assessment	Exp.		Cont.		Time		Group X Time	
		n	M±SD	*n*	M±SD	Regression Coefficient	*p*	Regression Coefficient	*p*
Resilience	Pretest	16	80.88±17.86	16	93.56±16.49				
	Posttest	14	91.00±17.88	13	93.00±16.14	-2.53	.455	12.42	.002
	1m F/U	13	87.46±16.27	13	89.38±14.67	-5.93	.153	12.72	.007
Depression	Pretest	16	22.00±13.66	16	15.00±10.45				
	Posttest	14	17.00±15.22	13	12.23±9.11	-0.13	.936	-5.33	.037
	1m F/U	13	15.62±16.08	13	9.23±9.93	-3.33	.030	-4.48	.120
Anxiety	Pretest	16	15.12±12.07	16	7.37±6.26				
	Posttest	14	9.79±9.19	13	5.23±6.52	-2.04	.098	-3.78	.057
	1m F/U	13	8.85±8.76	13	8.23±12.71	0.93	.766	-8.00	.022
Problem drinking	Pretest	16	3.50±4.10	16	2.50±2.92				
	Posttest	14	2.57±3.82	13	2.69±2.95	0.12	.415	3.58	<.001
	1m F/U	13	1.92±2.78	13	2.54±3.18	0.03	.892	-0.63	.038

Notes: Exp., Experimental group; Cont., control group; 1m F/U, 1-month follow-up

Significant group-by-time interaction effects were seen for resilience between pretest and both posttest (p = .002) and 1-month follow-up (p = .007), indicating that differential changes due to experimental condition were seen on resilience at posttest and 1-month follow-up. That is, a significant increase in resilience over time occurred for experimental participants but not for control participants (Figure 8).

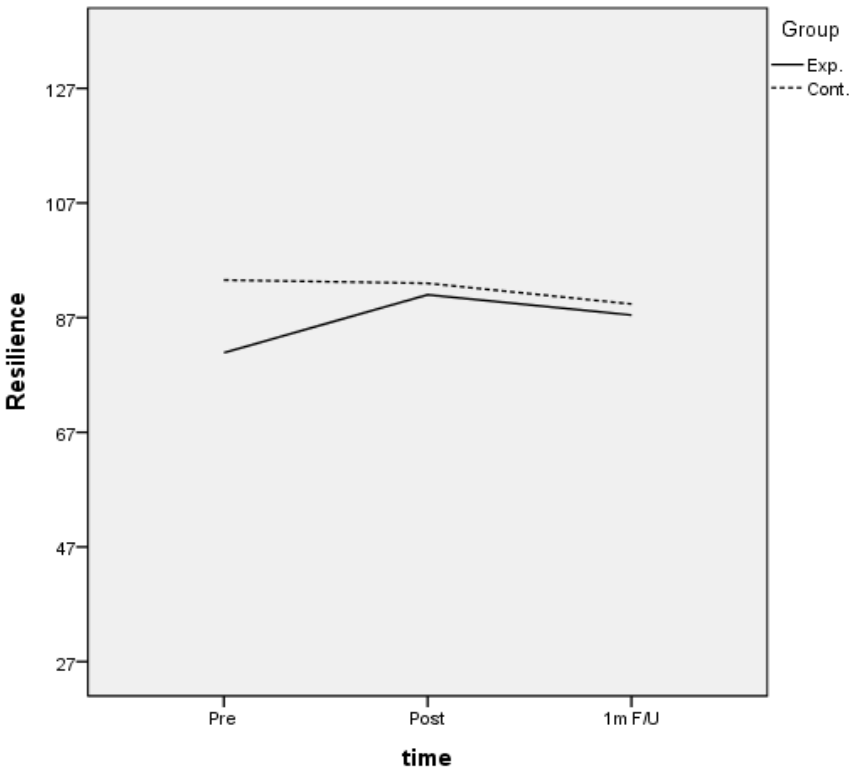

Figure 8. Changes in resilience from pretest to 1-month follow-up assessment by groups

Notes: Exp., Experimental group; Cont., control group; Pre, pretest; Post, posttest; 1m F/U, 1-month follow/up

In terms of depression, a significant group-by-time interaction was seen for depression between pretest and posttest (p = .037) but not between pretest and 1-month follow-up. In contrast, there was a significant time effect between pretest and 1-month follow-up (p = .030). That is, a significant decrease in depression due to intervention occurred during the 1-month intervention period but not during overall study period because significant decreases in depression over the study period occurred for both the experimental and control participants (Figure 9).

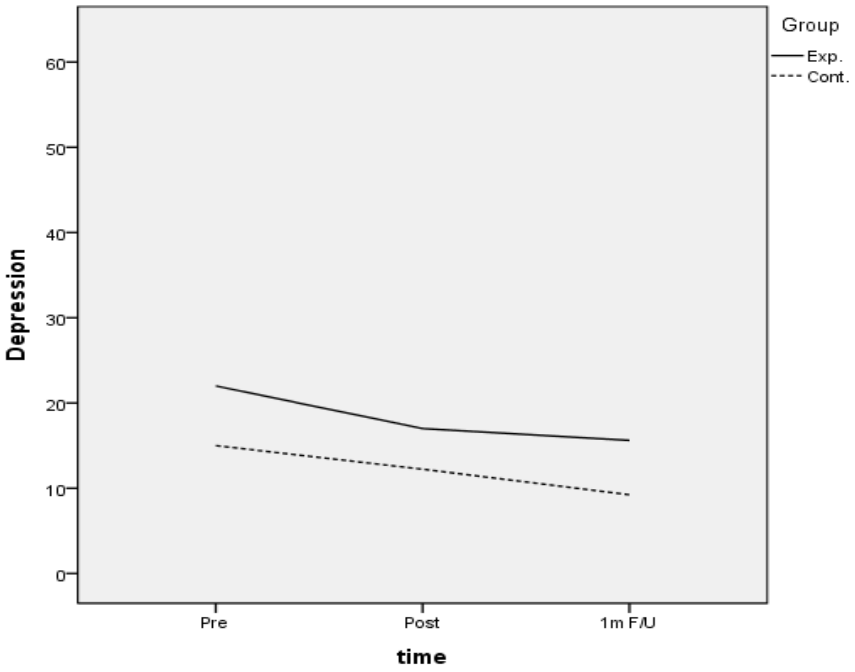

Figure 9. Changes in depression from pretest to 1-month follow-up assessment by groups

Notes: Exp., Experimental group; Cont., control group; Pre, pretest; Post, posttest; 1m F/U, 1-month follow/up

In terms of anxiety, a significant group-by-time interaction was seen between pretest and 1-month follow-up (p = .022), indicating that differential change due to condition was observed on anxiety at 1-month follow-up. That is, a decrease in anxiety occurred for experimental participants but not for control participants at 1-month follow-up (Figure 10).

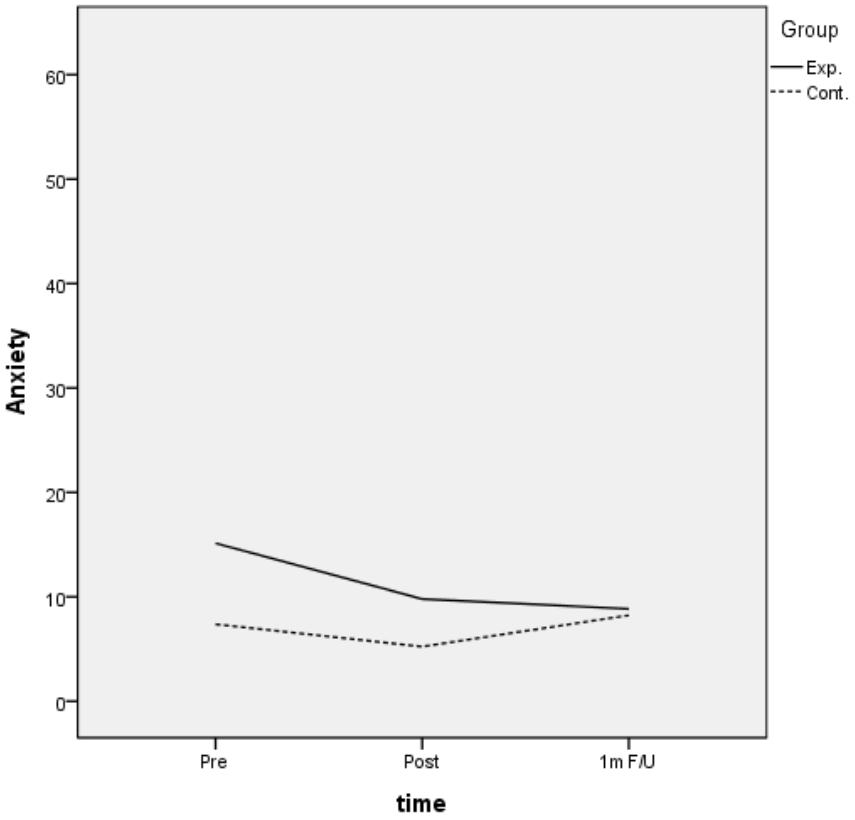

Figure 10. Changes in anxiety from pretest to 1-month follow-up assessment by groups

Notes: Exp., Experimental group; Cont., control group; Pre, pretest; Post, posttest; 1m F/U, 1-month follow/up

Significant group-by-time interaction effects were seen for problem drinking between pretest and both posttest ($p < .001$) and 1-month follow-up ($p = .038$), indicating that differential changes due to experimental condition were seen on problem drinking at posttest and 1-month follow-up. That is, significant decreases in problem drinking occurred for experimental participants but not for control participants at posttest and 1-month follow-up (Figure 11).

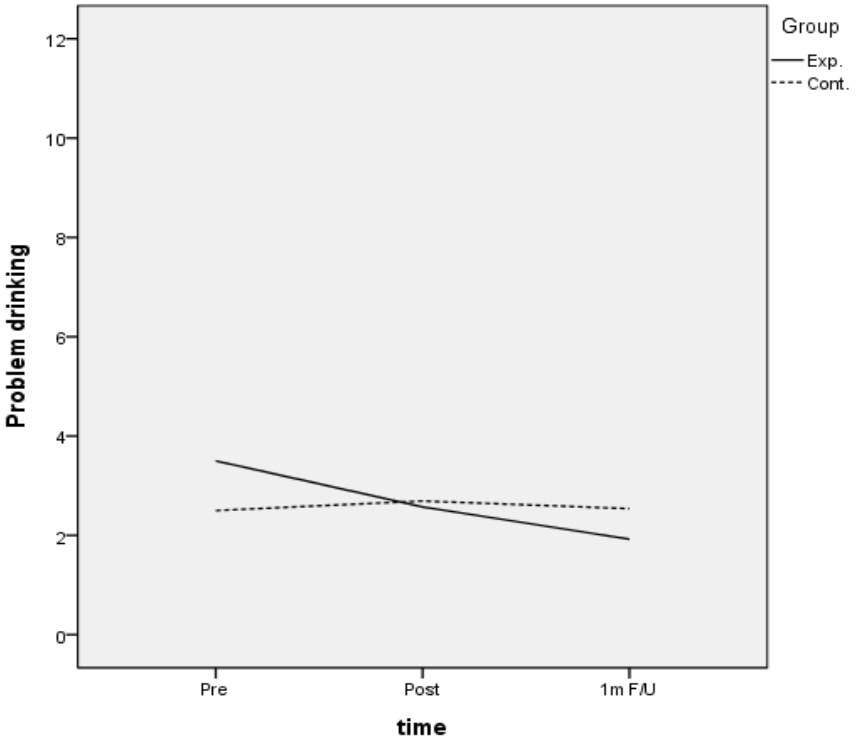

Figure 11. Changes in problem drinking from pretest to 1-month follow-up assessment by groups

Notes: Exp., Experimental group; Cont., control group; Pre, pretest; Post, posttest; 1m F/U, 1-month follow/up

5.2.5. Clinical significance of change and program attendance

Calculation of the RCI revealed that 30.8% of experimental participants showed a clinically significant improvement in resilience at 1-month follow-up. As for depression, 46.2% of experimental participants and 15.4% of control participants showed clinically significant reductions. In addition, 53.8% and 15.4% participants showed clinically significant changes in anxiety and problem drinking, respectively, at 1-month follow-up.

The average number of sessions attended by 14 of the experimental participants (excluding two dropouts who left their shelters during the program period) was 7.0. (SD = 1.30, range 4 – 8).

6. DISCUSSION

This study was designed to evaluate the effectiveness of a resilience enhancement program on resilience, depression, anxiety, and problem drinking. The findings revealed statistically significant effects of the program on resilience, anxiety, and problem drinking at the 1-month follow-up assessment, suggesting that the program has long-term effects on resilience, anxiety, and problem drinking. The interpretation of that the resilience enhancement program to strengthen protective factors improved the mental health outcomes supports the risk-protective model in a high risk sample of runaway youth.

Although there was a significant effect on depression immediately after the program, the level of depression significantly decreased in both experimental and control groups at the 1-month follow-up assessment. The results of the RCI indicated that nearly half of experimental participants showed clinically significant changes in depression, whereas only a minority of control participants showed clinically significant changes at the 1-month follow-up. Given the clinical significance of change, the intervention's effect on depression was deemed to be potentially supported. Further evaluation of the effect of the program on depression is needed.

The mechanisms targeted by the resilience enhancement program were self-esteem, self-regulation, relational skills, and problem-solving and goal-setting skills. Since previous studies have reported that CBT-based interventions reduce depression in runaway youth (Hyun et al., 2005; Slesnick et al., 2007), it can be inferred that cognitive

components for self-regulation included in the resilience enhancement program may lessen depression. The cognitive components in the program may help participants to become aware of their thoughts and feelings and change irrational thoughts into rational thoughts, which could reduce depression among youths.

The Beck Anxiety Inventory used in the current study measures physical symptoms of anxiety predominantly (Cox, Cohen, Direnfeld, & Swinson, 1996). Therefore it can be inferred that relaxation components for self-regulation such as deep breathing and progressive relaxation training reduced participants' anxiety symptoms.

The findings of the current study that the program promoting protective factors worked effectively on youth are consistent with findings of previous studies. Han (2006) reported that a program to strengthen protective factors (self-esteem, self-efficacy, self-regulation, interpersonal skills, and coping strategies) was effective in improving coping strategies, depression, and risk-taking beliefs among vulnerable adolescents. Another previous study of middle school students found that a resilience enhancement program focusing on self-efficacy, problem-solving strategies and the ability to adjust to school was effective in improving self-control efficacy, problem-solving ability, and school adjustment (Lee et al., 2010).

Previous studies on the use of strength-based interventions for runaway and homeless youth reported no significant effects on mental health problems. McCay et al. (2011) reported that a relationship-based intervention for homeless youths had a treatment effect on social connectedness but not on resilience, depression, suicidality, psychological

distress, and substance use. Additionally, an intervention to enhance psychological capital for homeless female youths led to improvements only in safe sex self-efficacy but not in resilience or substance use (Rew et al., 2014). On the other hand, this study found the effects on resilience, anxiety, and problem drinking; future studies replicating the resilience enhancement program developed by the current study are needed for conclusive evidence of its effects for runaway youth.

The program was developed considering the context of runaway youth in accordance with a needs assessment, and the program consisted mainly of activities designed to increase participants' interest. The average number of sessions attended was 7 out of 8 total, and this high attendance rate showed the program to be acceptable for runaway youth.

The current study used a closed-group program, in which members of a group complete the program process together and in which the beginning and ending dates were clear. This was done in order to evaluate the effectiveness of the developed program more accurately and to increase a sense of trust and safety (Grotsky, Camerer, & Damiano, 2000). However, in the real world of youth shelters, shelter arrival dates, departure dates and lengths of stay vary depending on the individual youths' situation. Additionally, newly admitted youth who have mental health needs should be able to receive the program without waiting. Given these realities, open groups in which new members can join at any time would be more likely to be feasible to implement and would allow more youth to participate in the program. Further studies for evaluating the program in open

group format are therefore needed.

This study has several limitations. First, the experimental sample had a lower baseline resilience score and higher baseline depression and anxiety scores than the control sample, and therefore the experimental sample had more possibility for change. Since this study used a non-randomized controlled study design and emphasized voluntary participation in the program due to ethical issues, the experimental participants were more likely to have mental health problems and needs than the control participants. Caution in the interpretation of the results is therefore needed in consideration of these preexisting differences between groups, and further studies in the form of RCTs are needed for rigorous evaluation of the intervention. On the other hand, these preexisting differences between groups could be interpreted positively because those with mental health problems had motivation to change and a need for intervention to address their mental health problems. Second, this study conveniently sampled from five youth shelters, but sampling considering the characteristics of different youth shelters is needed. Third, the current small sample, which consisted of adolescents who expected to stay in youth shelters for at least two months, excluded adolescents expecting to stay for shorter periods. The generalizability of the study's findings to all shelter-residing female youth is therefore limited.

7. CONCLUSIONS

This study developed a resilience enhancement program focusing on protective factors derived from an integrative literature review and a needs assessment. The study's findings support long-term effects on resilience, anxiety and problem drinking and the acceptability of the program for shelter-residing female youth. In consideration of the ethical issues pertaining to this vulnerable population, this study used a quasi-experimental design. The experimental group consisted of participants who had more mental health problems than the control group; future studies should therefore be RCTs planned with ethical responsibility in mind. Additionally, in consideration of the reality of the shelter setting, the effects of a version of the program using an open group format should be evaluated. It is expected that the program will be delivered by psychiatric and mental health nurses in community mental health centers connected with youth shelters in order to address the mental health needs of shelter-residing youth.

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APPENDIX

Appendix 1. Individual interviews: Participant quotations to illustrate the themes

1) Negative attitude toward the self

Participants evaluated themselves negatively: “I feel like an idiot. When my parents hit and swore, I should have reacted against my parents. I regret that I just cried and begged.”; “I am incompetent. I am not good at anything” (Participant A); “I feel stupid for not doing well at anything” (Participant E).

2) Difficulties in regulating emotion

Participants discussed their difficulties in managing their anger. Some participants were likely to suppress their anger, whereas others were more likely to explode: “I had endured bullying for one year, but I exploded with anger. I made a disturbance every other day at school. When my anger exploded, I used to throw whatever I was holding” (Participant A); “When I was angry, I used to punch the wall. When I got in a fight with schoolmates, I grabbed friends by the collar, and I kicked anything. I used to hit and break everything in my home with sticks. When somebody ignored me, I was angry” (Participant B); “I hate fighting and quarrels, so I mostly restrain my anger. I have not expressed my feelings to my classmates who bullied me” (Participant C); “I sometimes punch the wall or wherever, and it gets worse. I sometimes go on rampages at school, at the shelter, wherever.” (Participant D)

Participants also reported difficulties in managing depression, anxiety, and suicidal ideation: “I feel unstable when I have trouble with my friends in school, and I am stressed because of family problems. I attempted suicide, but now suicidal ideation has decreased” (Participant C); “When my parents beat me up, it was so hard that I thought of suicide. Whenever I closed my eyes I just wanted to die.” (Participant D); “Other schoolmates wear good jumpers and shoes. I feel the gap between rich and poor. I cannot wear good jumpers and shoes. If I lived with that family, I would have been able to live in peace. I think I am in another world from their world. They do not boast, but I feel excluded. When that thought strikes me, I feel depressed and want to be alone” (Participant E).

3) Negative thoughts feeding negative emotions

One participant stated her negative thoughts feeding negative emotions: “I get annoyed and angry at trifles lately. Schoolmates just look at me, but I feel like they talk behind my back”; “If I do not go to school, schoolmates seem to think that I stay away from school because they look at me” (Participant D).

4) Being thankful for what one has

Thankfulness in adversity was mentioned: “The director of the shelter said that I am more grateful. Although other people might think that that is just natural, I do not think that it is just natural. I always say ‘thank you’” (Participant B).

5) Difficulties in interpersonal relationships

Most participants reported bullying experience and uneasiness with schoolmates: “I was bullied from fourth grade until the third year of middle school” (Participant A); “There have been some bad rumors about me spread since the beginning of the semester. I have been bullied for one month and I now have only two friends. My classmates do not eat or play with me, and they’re talking behind my back as we speak” (Participant C); “Some seniors and schoolmates spread bad rumors about my boyfriend and me. They posted bad rumors on a Facebook page called ‘Say It Anonymously,’ which all students in the school can see. Female seniors look askance at me. When I pass by schoolmates, they whisper to each other”; “I hate going to school, but I need to graduate high school” (Participant D).

Participants related difficulties in talking with friends: “I have talked with new friends in the shelter, but conversation with them has decreased. It is difficult for me to approach them first”; “If I transfer to a new school, I will be unfamiliar with new schoolmates. Can I become acquainted with them?” (Participant D); “It is difficult to talk to my classmates in a group. I feel uncomfortable and awkward because I do not talk to my classmates in a group. I cannot talk to them, because it seems weird to approach unfamiliar classmates first” (Participant E).

6) Barriers to seeking help

One participant stated that it was hard to report domestic violence to anyone outside of

the family: “My dad hit me, but there was no one around to ask for help. One of my friends knew that I had experienced domestic violence. She urged me, ‘Report him. I do not understand why you do not report him.’ But at the time I thought, he is my dad, so I should just get beaten up by him and not report him” (Participant B).

One participant wanted psychiatric treatment, but she was unaware of how to get it: “I want to get help with taking medicine. I am depressed and anxious, and used to have suicidal ideation. I tried to get psychiatric help, but I could not. The process was complicated, and I did not think my mom likes it. I was told that the Sunflower Center supports victims’ psychiatric treatment, but I thought that this support did not apply to me” (Participant C).

Some participants recounted having negative experiences when they sought help from others: “I talked to school counselor, but the counselor thought that I had done something wrong and that is why I was being bullied by my classmates. The counselor seemed to blame me”; “Nobody has said ‘You must have suffered’” (Participant C); “My teacher said that ‘You are so sensitive to others’ behavior, and you have to toughen up. You ran away from home and have no mind to return. You decided to run away from home, so you have to study by yourself and do a part-time job.’ After I talked with the teacher, I was so annoyed” (Participant D). One youth discussed the stigma associated with shelter-residing youth: “People have a negative attitude toward shelter-residing youth because they consider shelter-residing youth to be runaways and delinquents” (Participant E).

Participants who had experienced abuse in the home and bullying in schools had

difficulties in trusting other people: “My parents betrayed me, so anyone could betray me. Someone who had bullied me said that they would not bully me any longer, but they bullied me again. I do not trust others” (Participant A); “I used to think that if I asked someone for help, he or she would ignore me. But after coming to the shelter, I have faith in people” (Participant B); “I do not trust my classmates, and I do not want to trust people. I think that I have gone through such things because I do not choose my friends well. My friends have hit me in the head with a brick many times” (Participant C).

7) Emotional support and help from other people and institutions

Participants stated that emotional support from other people helps recovery from stressful life events: “I want someone to tell me, ‘It’s not your fault.’ When I experienced bullying, I wish I had had even just one person on my side” (Participant A); “When I was anxious, the people around me, including teachers and friends in the shelter and schoolmates, seemed to be the most helpful” (Participant B); “I have one or two congenial friends in this shelter who the same age as me. I have befriended them, and I feel like I am becoming accustomed to this shelter” (Participant C); “I have received counseling many times. I think the counselor empathizes with me” (Participant E).

After running away from parental abuse, participants received practical help from other people and institutions: “When the matter between my dad and me went to trial, a public defender helped me, and people who were told about my dad’s abuse attended the proceedings as witnesses” (Participant B); “I often used to talk to my friend about my

parents' abuse. Her mother is a psychological counselor, so I also talked to her mother. I stayed in her house and came to the shelter. Her mother reported the abuse to child protective services. My boyfriend also talked to his mom and helped me. When I ran away from home, I did not bring anything with me. I only had my uniform, so my boyfriend bought clothes for me" (Participant E).

8) Difficulties in problem solving

Some participants stated that they could not manage stressful or conflict situations: "When I was stressed, I did not know how to relieve stress" (Participant B); "I cannot resolve the problems at school. My classmates are still misunderstanding me, and there are many classmates who hate me" (Participant C); "I think that the problems with friends and seniors will remain unresolved until I graduate" (Participant D).

Some participants tended to solve the problem themselves: "I usually solve the problems by myself, because I am the one who decides what to do" (Participant A); "I think for myself and solve the problems by myself. If the problems grow serious, I talk to my friends" (Participant E).

9) Anxiety and worries for future

Participants expressed anxiety about their uncertain futures and about the process of preparing for independent living: "I work a part-time job to earn money. I want to go to Canada on a working-holiday visa because I want to work abroad. I feel gloomy about

my future. I am interested in becoming a barista, but I am not a coffee drinker" (Participant A); "I did not know what to do, but I recently had an opportunity to study cooking. The more I practice cooking, the more mistakes I make. A chef should have a sensitive sense of taste, but I prefer salty food and do not have a sensitive sense of taste, which is a fatal drawback for a chef. Although I try to tell myself that this is okay, I am stressed out. I have been dreaming of becoming a chef since I was in elementary school. What if I lose my dream? Are there another opportunities for my future?" (Participant B); "I wanted to enter the department of nursing at the university. But, my grades are too low to enter, and I do not have any experience of extra-curricular activities" (Participant C); "I have to study for the future, but I do not want to go to college. I need to find out what I want to do. I am very anxious about the future. After I leave the shelter, can I live a good life independently?" (Participant D); "I will get a job first, then save up money to go to college. It will probably not be easy. I want to find a job at a bank, but my dream is to be a kindergarten teacher" (Participant E).

Appendix 2. The Institutional Review Board Approval Letter

결과통지서

주소 : 서울특별시 서대문구 연세로 50 e-mail : nursingirb@yuhs.ac Fax : 02-392-5440

2016년 11월 18일에 접수된 변경심의(수정 후 승인) 에 대하여 연세대학교 간호대학 기관생명윤리위원회에서 심의하여 다음과 같이 결정하였음을 통보합니다.

과제번호	간대 IRB 2016-0036			**관리번호**	간대 IRB 2016-0036-4	
연구과제명	쉼터 거주 여자 청소년을 위한 회복탄력성 향상 프로그램 개발 및 효과 평가					
연구책임자	성명	노다복	소속	연세대학교 간호대학	직위	박사6학기

심의대상	☐ 연구계획서(신규) ☐ 연구계획서(시정/보완) ■ 변경심의(수정 후 승인) ☐ 지속심의 ☐ 종료 및 결과보고 ☐기타심의		
심의일자	2016년 11 월 18 일	**심의장소**	연세대학교 간호대학
심의위원회	연세대학교 간호대학 기관생명윤리위원회		
심의종류	☐ 정규심의 ■ 신속심의		
심의결과	■ 승인 ☐ 수정후승인 ☐ 수정 후 신속심의 ☐ 보완 ☐ 반려 ☐ 중지/보류		
승인일자	2016.11.18	**승인 유효기간**	2016.11.18.~2017.7.31
승인번호	간대 IRB 2016-0036-4		
심의된 서류	■ 답변서 ■ 수정된 연구계획서		
심의의견	수정 사항을 확인하였습니다. 연구의 윤리적, 과학적 타당성을 충족하여 승인합니다.		

※ 모든 연구자들은 아래의 사항을 준수하여야 합니다.

1) 승인된 계획서에 따라 연구를 수행하여야 합니다.
2) 위원회의 승인을 받은 동의서를 사용하여야 합니다.
3) 모국어가 한국어가 아닌 연구대상자들에게는 승인된 동의서를 연구대상자의 모국어로 인증된 번역본을 사용할 것이며 이러한 동의서 번역본은 반드시 위원회의 승인을 받아야 합니다.
4) 연구진행에 있어 연구대상자를 보호하기 위해 불가피한 경우를 제외하고 연구의 어떠한 변경이든 위원회의 사전 승인을 받고 수행하여야 하며 연구대상자들의 보호를 위해 취해진 어떠한 응급상황에서의 변경도 즉각 위원회에 보고하여야 합니다.
5) 위원회에서 승인된 계획서에 따라 등록된 어떠한 연구대상자라도 사망, 입원, 심각한 질병에 대

본 통지서에 기재된 사항은 보건복지부 지정 연세대학교 간호대학 기관생명윤리위원회에 기록된 내용과 일치함을 증명합니다.
본 연세대학교 간호대학 기관생명윤리위원회는 생명윤리 및 안전에 관한 법률과 관련 법규를 준수합니다.
본 연구와 이해상충(Conflict of Interest)이 있는 위원이 있을 경우 연구의 심의에서 배제합니다.
본 통보서의 사본은 연세대학교 간호대학 기관생명윤리위원회에서 보관합니다.
version (Nov. 2015)

하여는 위원회에 서면으로 보고하여야 합니다.

6) 연구 또는 연구대상자의 안전에 대해 유해한 영향을 미칠 수 있는 어떠한 새로운 정보도 즉각적으로 위원회에 보고하여야 합니다.
7) 위원회의 요구가 있을 때에는 연구의 진행과 관련된 보고를 위원회에 제출하여야 합니다.
8) 위원회가 심의한 과제에 대해 조사 및 감독 차원에서 현장점검을 실시할 시 원활한 점검절차 진행을 위해 연구자는 연구진행과 관련된 서류를 준비하고 협조하여야 합니다.
9) 연구대상자 모집광고를 사용할 시에는 사용 전에 위원회의 승인을 받아야 합니다.
10) 동의는 강제 혹은 부당한 영향이 없는 상태에서 충분한 설명에 근거하여 수행되어야 하며, 잠재적인 연구대상자에게 연구에 참여여부를 고려할 수 있도록 충분히 기회를 제공하여야 합니다.
11) 연구자와 그밖에 이해당사자는 연구계획서 승인을 광고나 홍보, 상업적 목적으로 사용할 수 없습니다.
12) 위원회의 심의결과 시정요구에 대해 모두 이행 및 충족될 경우에만 연구를 진행할 수 있습니다.
13) 위원회가 시정 및 보완을 요구한 경우 시정·보완 계획을 1개월 이내에 본 위원회에 제출하여야 합니다. 심의일로부터 1년 이내에 시정·보완 계획을 제출하지 않은 경우 심의가 무효화될 수 있습니다.
14) 시정계획은 신속심의로 진행되고 보완계획은 정규심의로 진행되며, 승인일과 승인 유효기간은 심의 결과에 따라 결정됩니다.
15) 승인기간 이후에도 연구를 지속하기 위해서는 적어도 승인 만료 2개월 전까지 연구의 진행상황에 대하여 중간보고를 하여야 합니다.
16) 연구 종료 후 3개월 이내에 종료보고를 하여야 합니다.
17) 연구와 관련된 기록은 연구가 종료된 시점을 기준으로 최소 3년간 보관하여야 합니다.

2016 년 11 월 18 일

연세대학교 간호대학 기관생명윤리위원장 (인)

본 통지서에 기재된 사항은 보건복지부 지정 연세대학교 간호대학 기관생명윤리위원회에 기록된 내용과 일치함을 증명합니다.
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본 통보서의 사본은 연세대학교 간호대학 기관생명윤리위원회에서 보관합니다.

Appendix 3. Written informed consent

version 2015. 4. 3.

연구대상자 동의서

〔연구제목〕 쉼터거주 여자 청소년을 위한 회복탄력성 향상 프로그램 개발 및 효과평가

- 본인은 상기 연구에 대해 연구의 목적, 방법, 기대효과, 가능한 위험성, 기밀성 및 익명성 등에 대하여 충분한 설명을 듣고 이해하였습니다.
- 연구와 관련하여 개인정보가 제공되는 경우, 개인 정보에 관한 사항(개인정보수집 이용목적, 수집하려는 개인정보 항목 및 보유기간)에 관하여 설명을 들었습니다.
- 본인은 점검자가 연구 실시 절차와 신뢰성을 검증하기 위해 본인의 기록을 열람할 수 있다는 사실에 동의합니다.
- 본인은 참여기간 절차 및 방법에 대해 설명을 들었습니다.
- 본인은 예상되는 위험 및 이득에 대하여 설명을 들었습니다.
- 본인은 상기 연구에 대한 설명문 및 동의서 사본 1부를 제공받았습니다.
- 본인은 상기 연구과 관련한 모든 궁금한 사항에 대하여 충분한 답변을 들었습니다.
- 본인은 상기 연구와 관련하여 궁금한 사항이 있을 경우 언제든지 연락할 수 있는 연락처를 받았습니다.
- 본인은 충분한 시간을 갖고 생각한 이후에 상기 연구에 참여하기를 자유로운 의사에 따라 동의합니다.
- 본인은 상기 연구에 동의한 경우라도 언제든지 철회할 수 있음을 알고 있습니다.
- 본인은 이 정보가 향후 기타 학술연구 목적으로 사용되는 것에 동의합니다.
- 본인은 상기 연구에 참여를 동의하지 않거나 중단하더라도 어떠한 불이익도 받지 않음을 알고 있습니다.

연구 대상자	날 짜	년 월 일
	성 명	(서명)

연구자	날 짜	년 월 일
	성 명	(서명)
	연락처	

쉼터 담당자	날 짜	년 월 일
	성 명	(서명)
	관 계	

연구대상자의 권리에 대한 의문사항이 있거나 연구와 관련한 불만사항이 있는 경우 아래의 사무실로 연락해 주시기 바랍니다.

- 연세대학교 간호대학 기관생명윤리위원회 : 02-2227-7909 / nursingirb@yuhs.ac

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Appendix 4. Measures

version 2015. 4. 3.

연구대상자 설문지

안녕하십니까?

연구 제목: 쉼터거주 여자 청소년을 위한 회복탄력성 향상 프로그램 개발 및 효과평가

본 연구는 쉼터 거주 여자청소년을 위한 회복탄력성 향상 프로그램 개발 후 그 효과에 대해 파악하고자 합니다. 본 연구결과는 쉼터 거주 여자청소년의 회복탄력성과 정신건강 증진을 위한 자료로 활용할 수 있으리라 기대합니다.

귀하의 설문 참여는 자발적으로 결정하는 것입니다. 귀하가 응답해주신 내용은 무기명으로 처리되고 연구책임자의 박사학위논문 연구목적을 위한 자료로만 사용될 것이므로, 절대 비밀이 보장됨을 약속드립니다.

본 설문에 응답하는 데 약 20-30분의 시간이 소요되며 중단을 원하시는 경우 언제든지 철회할 수 있으며, 설문을 중단하시더라도 어떠한 불이익도 없습니다.

본 설문은 정답이나 오답이 없으며, 경험하신 대로 편안하게 작성하시면 됩니다. 여러분의 솔직한 의견을 수집하는 것이 가장 중요하므로 솔직히, 빠짐없이 응답해주시기를 부탁드립니다.

귀중한 시간을 할애하여 설문에 응답해주셔서 대단히 감사합니다.

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연구자 연락처:
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version 2015. 4. 3.

Q1. 아래에 적혀있는 문항을 잘 읽으신 후, 자신에게 해당되는 답변에 표시해 주십시오. 한 문항도 빠짐없이 솔직하게 답해주시기 바랍니다.

문 항	전혀 그렇지 않다	거의 그렇지 않다	가끔 그렇다	자주 그렇다	항상 그렇다
1. 문제가 생기면 여러 가지 가능한 해결 방안에 대해 먼저 생각한 후에 해결하려고 노력한다.					
2. 어려운 일이 생기면 그 원인이 무엇인지 신중하게 생각한 후에 해결하려고 노력한다.					
3. 나는 대부분의 상황에서 문제의 원인(이유)을 잘 알고 있다.					
4. 나는 어려운 일이 닥쳤을 때 화가날 때 잘 참을 수 있다.					
5. 내가 무슨 생각을 하면, 그 생각이 내 기분에 어떤 영향을 미칠지 잘 알아챈다.					
6. 이슈가 되는 문제를 가족이나 친구들과 토론할 때 화가날 때 잘 참을 수 있다					
7. 당장 해야 할 일이 있으면 나는 어떠한 유혹이나 방해도 잘 이겨낼 수 있다.					
8. 아무리 당황스럽고 어려운 상황이 닥쳐도, 나는 내가 어떤 생각을 하고 있는지 스스로 잘 안다.					
9. 일이 생각대로 잘 안 풀리면 쉽게 포기하는 편이다.					
10. 나는 감사해야 할 것이 별로 없다.					
11. 내가 고맙게 여기는 것들을 모두 적는다면, 아주 긴 목록이 될 것이다.					
12. 세상을 둘러볼 때, 내가 고마워 할 것이 별로 없다.					
13. 내 인생의 여러 가지 조건들은 만족스럽다.					
14. 나는 내 삶에 만족한다.					
15. 나는 내 삶에서 중요하다고 생각한 것들은 다 갖고 있다.					
16. 열심히 일하면 언제나 보답이 있으리라고 생각한다.					
17. 맞든 아니든, "아무리 어려운 문제라도 나는 해결할 수 있다."고 믿는 것이 좋다고 생각한다.					
18. 어려운 상황이 닥쳐도 나는 모든 일이 다 잘 해결될 거라고 확신한다.					
19. 나와 정기적으로 만나는 사람들은 대부분 나를 싫어하게 된다.					
20. 서로 마음을 터놓고 얘기할 수 있는 친구가 거의 없다.					
21. 서로 도움을 주고받는 친구가 별로 없는 편이다.					
22. 나는 재치있는 농담을 잘 한다.					
23. 나는 내가 표현하고자 하는 것을 말로 잘 표현할 수 있다.					
24. 나는 분위기나 대화 상대에 따라 대화를 잘 이끌어 갈수 있다.					
25. 사람들의 얼굴표정을 보면 어떤 감정인지 알 수 있다.					
26. 슬퍼하거나 화를 내거나 당황하는 사람을 보면 그들이 어떤 생각을 하는지 잘 알 수 있다.					
27. 친구가 화를 낼 경우 나는 그 이유를 꽤 잘 아는 편이다.					

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Q4. 다음 각 문항 중 해당하는 대답에 V 표시 해주시기 바랍니다. 질문에 나오는 1잔은 술의 종류와 관계없이 1잔의 양을 의미합니다. 즉, 맥주의 경우 맥주잔 1잔, 소주의 경우 소주잔 1잔, 양주의 경우 양주잔 1잔 등을 뜻합니다.

질 문	0점	1점	2점	3점	4점
1. 술을 얼마나 자주 마십니까?	전혀 마시지 않는다	월 1회 이하	월 2-4회	1주일에 2-3회	1주일에 4회 이상
2. 평소 술을 마시는 날 몇 잔 정도나 마십니까?	1-2잔	3-4잔	5-6잔	7-9잔	10잔 이상
3. 한번 술을 마실 때 소주 1병 또는 맥주 4병 이상 마시는 음주는 얼마나 자주 하십니까?	전혀 없다	월 1회 미만	월 1회	1주일에 1회	매일같이

Q5. 다음 문항들은 자료 분석을 위해 꼭 필요한 개인의 일반적 사항에 대한 질문입니다. 주관식 문항은 해당 내용을 자세히 기입하여 주시고, 객관식 문항은 해당되는 번호에 **√표** 해주시기 바랍니다.

1. 나이: 만 ( )세

2. 귀하는 현재 학교를 다니는 상태입니까?
① 중학교 재학 중 ② 고등학교 재학 중 ③ 대학교 재학 중
④ 학교를 다니지 않는다. 최종 학력 ( )

3. 가정형편(가정 경제수준)은 다음 중 어디에 해당됩니까?
① 하 ② 중하 ③ 중 ④ 중상 ⑤ 상

4. 지금까지 총 몇 회 정도 가출하였습니까? ____회

5. 지금까지 총 가출기간은 얼마나 됩니까? (집과 시설이 아닌 곳에 있었던 기간) ____개월____일

6. 현재 쉼터에 온 지 얼마나 되었습니까? ____개월____일

7. 다음은 가족기능에 관한 질문입니다. 해당되는 곳에 v표 하십시오.

문 항	거의 아니다	가끔 그렇다	거의 항상 그렇다
1. 나에게 괴롭거나 어려운 일이 생기면 나의 가족에게 도움을 청할 수 있다.			
2. 문제해결을 위한 대화나 어려움을 서로 나누어 갖기 위해 현재 우리 가족이 취하고 있는 방법들이 좋다고 생각한다.			
3. 나는 새로운 일을 하려하거나 새로운 제안을 할 때 나의 가족은 이를 따라 주고 도와준다.			
4. 분노, 슬픔, 사랑 등 나의 감정에 대응하는 나의 가족의 반응에 만족한다.			
5. 가족과 함께 여가를 보내는 방법 중 현재 우리 가족이 취하는 방법들이 좋다고 생각한다.			

ABSTRACT IN KOREAN

쉼터 거주 여자 청소년을 위한 회복탄력성 향상 프로그램 개발 및 효과평가

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연구의 필요성 및 목적: 한국의 중·고교생의 생애가출 경험률은 11%로, 중·고교생 10명 중 1명 이상이 최소 한번 이상 가출을 경험한 것으로 파악되고 있다. 가출청소년들은 부모로부터 방임이나 학대를 경험한 비율이 높고, 이러한 트라우마 경험으로 인해 정신건강문제에 취약한 것으로 보고되어 왔다. 가출청소년의 트라우마 관련 정신건강 문제를 해결하기 위해 강점 기반 접근이 제안되어 왔다. 이는 청소년 내면의 강점과 긍정적 자원에 초점을 두는 것으로, 회복탄력성 이론에 기반한다. 회복탄력성 기반 중재는 위험요인이 회복탄력성에 악영향을 미치는 것을 방지하기 위한 보호요인을 강화하는 것이다. 본 연구는 청소년 쉼터에 거주하는 여자 가출청소년들을 대상으로 개별적 보호요인으로 구성된 회복탄력성 향상 프로그램을 개발하고 그 효과를 평가하였다.

연구방법: 본 연구는 1단계 회복탄력성 향상 프로그램을 개발하는 방법론적 연구이며, 2단계 그 효과를 평가하기 위한 비동등성 대조군 전후 시차설계연구이다. 프로그램은 문헌고찰 결과와 쉼터에 거주중인 여자 청소년 5인과의 개별 면담을 이용한 요구도 조사 결과를 기반으로 개발하였으며, 전문가 5인의 검토를 받아 수정, 보완하였다. 프로그램 평가를 위해 결과변수로 회복탄력성, 우울, 불안과 문제음주를 사용하였으며, 측정은 사전, 중재직후, 중재 후 1달에 3번 측정하였다. 실험군 16명과 대조군 16명의

총 32명의 자료를 수집하였고, 시간에 따른 실험군과 대조군의 차이는 일반화추정방정식으로 분석하였다.

연구결과: 요구도 조사의 내용분석 결과를 토대로 자존감, 자기조절, 대인관계기술, 문제 해결 및 목표설정 기술의 네 가지 보호요인을 증진시키는 내용으로 프로그램을 구성하였다. 프로그램은 한달 간 총 8회의 그룹 회기로 진행하였다. 중재효과 분석 결과, 회복탄력성, 불안, 문제음주는 중재 후 1달 추적조사에서 시간의 흐름에 따라 실험군과 대조군 간에 유의한 차이가 나타나, 본 프로그램의 회복탄력성, 불안 및 문제음주에 대한 효과를 지지하였다. 중재 후 1달 추적조사에서 우울은 실험군과 대조군 모두에서 유의하게 감소하였으나, 임상적으로 유의하게 우울의 감소를 보인 참가자의 수는 실험군이 대조군보다 많은 것으로 나타났다. 즉, 우울 감소에 대한 프로그램의 효과는 통계적으로 지지되지 않았으나, 실험군 중 거의 절반이 임상적으로 우울의 유의한 감소를 보여 우울에 대한 프로그램의 잠정적 효과가 있는 것으로 사료된다.

결론: 본 연구는 가출 청소년들과의 면담을 통한 요구도 조사를 토대로 가출청소년들의 삶의 맥락에서 맞춤형(tailored) 프로그램을 개발하고 그 효과를 검증하였다는 데 의의가 있다. 본 연구에서 개발된 이론 기반의 회복탄력성 향상 프로그램은 청소년 쉼터와 연계된 지역 정신건강증진센터의 간호사에 의해 수행될 수 있을 것으로 기대된다.

주요어(Key words): 가출청소년, 문제음주, 불안, 우울, 회복탄력성