

PREDICTORS AND MOTIVATIONAL TAXONOMY OF YOUTH ELOPEMENT
FROM OUT-OF-HOME MENTAL HEALTH PLACEMENT

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ABSTRACT

Youth elopement, or runaway from out-of-home (OOH) treatment facilities, is considered to be a prevalent and disruptive break in a youth's treatment course. The current study had two foci utilizing data from Hawaii's Child and Adolescent Mental Health Division, which included 1,261 youth's initial OOH treatment episode. First, sequential binary logistic regression was used to examine predictors associated with a youth's first elopement. Results illustrated that youth in unlocked facilities and who were diagnosed with a disruptive behavior disorder at time of intake were more likely to elope from OOH placement. Second, a coding system was developed and implemented on a random subsample of cases (N = 300) to assess elopement related motivational categories of each elopement episode. Three major motivational categories emerged, which included peer influence (54% of elopements), escape (49%), and approach (36%). Implications for child mental health service policy and practice are discussed.

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CHAPTER 1. INTRODUCTION

Mental health for children and adolescents is a substantial public interest, with services and policies developed to aid these individuals' lives. An epidemiological review reported that 15% to 20% of youth experience clinically identified mental health disorders (Waddell & Shepard, 2002). The prevalence of children and adolescents with serious emotional and behavioral mental health disturbances (SEBD), as defined in Public Law 102-321, has a conservatively estimated range of 5% to 9% of all youth (Friedman et al., 1996). The primary goal of a public mental health system of care for children is to support the needs of youth with serious mental health challenges and their families via a network of child-serving systems and services (Stroul et al., 2010).

The breadth of individual mental health needs are met by an array of services that demonstrate a flexible continuum of care in which services can be modified to fit the individual client. The variety of services usually consist of a range of non-residential and residential treatment options, such as outpatient therapy, intensive home-based services, crisis services, respite care, case management, therapeutic foster care, therapeutic group care, hospitalization and other services (Stroul et al., 1998). Embedded in the philosophy of a mental health system of care is the principle of least restrictive environment (LRE), expressing that youth should receive services within the most normative environment that is clinically appropriate (Stroul & Friedman, 1986). Although the goal of a system of care is to use the LRE possible, there are times when outpatient services cannot meet the needs of a youth. Specifically, of the youth qualified for services, 3% to 8% have severe social, emotional, and/or behavioral problems that necessitate residential or out-of-home (OOH) treatment (Burns et al., 1999). The justification of OOH treatments has been

based on protection of the youth, protection of the community, and anticipated benefits of such treatment (Barker, 1988). Best practice suggests that OOH placement is appropriate for youth who need a high degree of environmental structure, whose relationship with family or previous caregivers might disrupt therapeutic efforts, and/or whose behavioral and emotional deficits disrupt daily functioning (Dore, 1994; James et al., 2006). Aside from the temporary amelioration of stress for parents, OOH treatment facilities aspire to provide a consistent, nurturing environment with clear expectations, and predictable consequences designed to guide youth toward desirable behaviors (Rosen, 1998). These values factor into treatment goals, which correspond with research on resilience and constructive life experiences (Kirby & Fraser, 1997).

While OOH treatments are an important element of a mental health service array, the practicality of these treatments have consistently been debated, especially during times of fiscal restraint (Hair, 2005; Burns et al., 1999). Specifically, there is concern that residential care settings can be iatrogenic because of negative peer contagion effects (Barth, 2005; Dishion et al. 1999), and harm associated with separation from the family (Barker, 1988). Although research thus far has not found significant negative peer contagion effects in OOH treatments (Huefner, 2011; Lipsey, 2006; Weiss et al., 2005), studies support that the nature of youth's peer relationships (i.e., amount of deviant talk, proportion of delinquent friends) may increase disruptive behavior (Granic & Dishion, 2003). Furthermore, Barker (1998) believes negative outcomes are related to the separation from family during residential treatment episodes, stating that trauma and abandonment may occur when families find they function more happily and with less

stress without the youth at home. These families may visit less often, and may find ways to drop out of the treatment process, causing the youth to become alienated from their family (Barker, 1988). Counter to Rosenblatt's (1993) depiction of youth's healthy life experiences and positive outcomes as "at home, in school, and out of trouble," OOH treatments group together youth with SEBD, separating them from their families and the community. These findings suggest OOH treatment may elicit negative behaviors through peer support and separation from family. Related to the current study foci, these features may influence elopement behavior during OOH treatment.

Elopement as a Common Problem Behavior in OOH Placement

The purpose of OOH treatment is to provide therapeutic services, protect youth, and provide security for the community (Barker, 1988). A direct breach of these functions occurs when a youth elopes. An elopement is broadly defined as the event of a youth leaving OOH treatment without permission. Research reporting the frequency of, and harm associated with, elopement from OOH treatment as well as general runaway behavior¹ are reviewed.

A study by Kashubeck and colleagues (1994) reported that 54% of youth eloped from two residential treatment centers being studied. Research has also found elopements accounted for up to 57% of terminations from residential treatment facilities (Eisengart et al., 2007; Sunseri, 2003). Elopement is considered to be a particular form or subtype of general runaway behavior which has a longer history of scientific investigation. Findings from such studies have shown comparable results. Specifically, 21% to 71% of youth placed in non-treatment OOH care (e.g. foster care and residential care) have runaway at

least once (Biehal & Wade, 1999; Courtney & Zinn, 2009; English & English, 1999; Fasulo et al., 2002; Nesmith, 2006), which had accounted for 9% to 48% of unsuccessful placement discharges (Courtney & Wong, 1996). An estimated one in five youth have runaway from home at least once in their life before the age of 18 (Pergamit, 2010), illustrating both the magnitude and perhaps range of motivation inducing this behavior.

Studies on general runaway behavior also reveal potential threats to a youth's safety, and reinforcement of the problem behavior. Youth who run were found to be at serious risk of victimization, suicide, sexual exploitation, and offending (Biehal & Wade, 1999), which may be related with the finding that these youth are often associated with other delinquents (Goodrich & Fullerton, 1984), and find themselves in high crime locations (Hammer, 2002; Whitbeck et al. 2000). Additionally, the act of running away may function as an operant process to both avoid emotionally aversive stimuli and encourage positive feelings of being free of supervision, causing further disruption between authority and youth (Levy, 1972; Schaffner, 1999). Findings that previous episodes of running away predicts future runaway behavior supports this view (e.g., Kashubeck et al., 1994; McIntosh et al., 2010; Sunseri, 2003).

Youth in OOH treatment settings are considered to be in a more restrictive environment within a mental health system of care, as opposed to outpatient therapy settings (e.g. intensive in-home, Multisystemic Therapy). As such, special attention to the administration of OOH services is needed in order to keep youth on a successful developmental course. While research has recognized that elopement is a common obstacle in the delivery of proper OOH treatment with potentially harmful consequences,

examination of study findings in the prediction and motivation of elopement are inconclusive and sometimes contradictory, demonstrating a need for further investigation.

Predicting Elopement from OOH Treatment and Non-Treatment OOH Care

Research on elopement from OOH treatment and runaway from non-treatment OOH care has progressed into two different fields of study. Despite operational differences, both fields generate valuable inferences. Accordingly, research on runaway from non-treatment OOH care may be prudently integrated with research on elopement from OOH treatment for a more complete review of findings. The categories of predictors analyzed in both OOH treatment and non-treatment OOH care include child characteristics, youth psychopathological assessment, youth histories, and system factors.

Study results on child characteristics are generally consistent. As previously mentioned, one of the most robust predictors of elopement from OOH treatment and runaway from non-treatment OOH care is previous elopement or run away episodes (Biehal & Wade, 2000; Courtney & Zinn, 2009; Kashubeck et al., 1994; McIntosh et al., 2010; Sledge et al., 1988; Sunseri, 2003). Increased age was found to be associated with a higher risk of elopement from OOH treatment and runaway from non-treatment OOH placement until the age of seventeen, when the association reverses, possibly because legal emancipation is more clearly in sight (Courtney & Wong, 1996; Courtney & Zinn, 2009; McIntosh et al., 2010; Nesmith, 2006; Sunseri, 2003; Wade & Biehal, 1998). Research has also consistently found that girls were more likely to elope from OOH treatment and runaway from non-treatment OOH care than boys (Eisengart et al., 2007;

Courtney & Wong, 1996; English & English, 1999; Fasulo et al., 2002; Sledge et al., 1988).

Research on the relationship between youth abuse history and elopement from OOH treatment and runaway from non-treatment OOH care has demonstrated mixed findings. One study found that many forms of child maltreatment (i.e., sexual abuse, physical abuse, and other neglect, but not lack of supervision) were associated with decreased risk of runaway from non-treatment OOH care (Courtney & Zinn 2009).

Research also found that victims of confirmed sexual abuse had a decreased risk for elopement from OOH treatment than victims of suspected sexual abuse (Kashubeck et al., 1994). Authors of the latter study suggested one reason for this association may be that OOH treatment staff are more sympathetic of youth with identified trauma histories, and that additional services may be provided to aid their recovery (Kashubeck et al., 1994). In contrast, research on general runaway behavior (i.e., from family-of-origin) have often found youth abuse histories to be associated with an increased risk of runaway from home (Biehal et al., 2003; Mervyn, 2004; Rees & Lee, 2005). This difference in findings suggests that youth may run away to escape from maltreatment at home, but might not elope from OOH treatment and runaway from non-treatment OOH care (where they are presumably in safe environments). Notably, personal histories of child maltreatment may account for a sizeable proportion of youth in OOH treatment, which may influence elopement behavior (Courtney & Wong 1996; Courtney & Zinn, 2009; Kashubeck et al., 1994; Hussey & Guo, 2002).

With regard to youth psychopathology, elopement and runaway are typically associated with disruptive behavior problems. Specifically, delinquency (McIntosh et al., 2010), externalizing behavior problems (English & English, 1999; Nesmith 2006), personality disorders (Kashubeck et al., 1994), substance use (McIntosh et al., 2010), and substance-related disorders (Courtney & Zinn, 2009) had all been found to be risk factors of elopement or runaway. Conversely, other youth challenges such as diagnosis of schizophrenia, anxiety, somatoform, and dissociative disorders have been associated with a relative decrease in risk of runaway from non-treatment OOH care (Courtney & Zinn, 2009). An alternative to these broad relationships was illustrated by Kashubeck and colleagues (1994), who found that affective disorders were associated with higher risk of elopement. The study also found that youth with good prognoses were more likely to elope, which the authors suggested might reflect that youth who believe that they are in less need of assistance have less patience with the restrictive atmosphere of a residential treatment (Kashubeck, 1994). Conflicts and counterintuitive findings may be further complicated by diagnostic comorbidity, sample sizes, youth characteristics, and other confounds, pointing to the need for additional inquiries on diagnoses and assessments as predictors of elopement.

A number of service system factors has been identified to predict elopement from both OOH treatment and runaway from non-treatment OOH care, including the type of placement, the number of previous placements, and the administrative location. Placement in non-treatment group homes was associated with higher runaway than non-treatment foster care, suggesting that problems related with a high ratio of youth to

adults, a less family-like environment, less individualized rules, more staff rotation, and older and more challenging youth might increase the risk for run away (Courtney & Wong, 1996, Courtney & Zinn, 2009). Placement instability, or number of previous placements, was identified as a significant risk factor in runaway from non-treatment OOH care (Courtney & Zinn, 2009; English & English, 1999). There is also evidence that general administrative location had shown an association with runaway from non-treatment OOH care (Courtney & Wong, 1996; Courtney & Zinn, 2009). Research on OOH treatment have found mixed results regarding the association between different OOH treatment agencies and elopement (Eisngart, et al., 2007; McIntosh et al., 2010). A study by McIntosh and colleagues (2010) developed a model that revealed low school attendance, history of running away or run away ideation, and linear and quadratic terms for substance abuse, delinquency, and age predicted elopement from OOH treatment. The full model only accounted for a small amount of variance, which may serve as an indication of the convoluted nature of the behavior (McIntosh et al., 2010).

The implications from research on predictors of elopement from OOH treatment and run away non-treatment OOH care are that youth characteristics, system variables, and youth histories may be utilized in the prediction of elopement. While studies have analyzed bivariate relationships of elopement and runaway, limited effort has been made to develop a predictor model (McIntosh et al., 2010). The benefit of models is the ability to detect influences between predictors.

Motivational Taxonomy of Runaway Behavior and Elopement

Contemporary research acknowledges the Risk Amplification Model (RAM) as a paradigm for studying youth who runaway from home (Tyler et al., 2011). This model states youth run to escape the negative features associated with the home environment, increasing their likelihood of victimization and participation in high-risk behaviors. Specifically, research has found that family instability (a latent construct of child maltreatment, lack of parental warmth, and parental rejection) has both direct and indirect effects (i.e. via the development of problem behaviors) on runaway behavior (Tyler et al., 2001). Cross-sectional (McMorris et al., 2002; Tyler et al., 2001; Whitbeck & Hoyt, 1999) and longitudinal studies (Tyler et al., 2011) support the RAM; however, the RAM is limited because of its sole organization around negative family environments, which differs from the approach taken by qualitative research in motivational factors. Particularly, studies in the motivation of runaway behavior have also focused on the act of running to approach rewarding stimuli. Homer's (1973) dichotomous view that youth are "running from" or "running to" stimuli is a dated, yet prevailing, concept in qualitative studies.

Miller and Eggertson-Tacon (1990) elaborated Homer's view in developing three levels of youth who runaway from home: (a) first degree runners, which are defined as youth that run from an undesired circumstance, (b) second degree runners who both run from and towards stimuli, (c) third degree runners that run only towards desired circumstances. Results support the existence of first and second-degree runners, with an insufficient representation of third-degree runners in the study to evaluate. Authors

suggested that youth view running away as a solution to problems, with a special focus on personal conflicts (Miller & Eggertson-Tacon, 1990). Runaway behavior temporarily resolves disputes and provides relief from punishing stimuli (e.g. family member and staff). Notably, these findings support the RAM.

Related to this approach-avoidance dichotomy, a report by the U.S. Department of Justice (2010) has developed motivational trigger categories of youth who run away based from previous studies that include arguments with familial figures, physical and sexual abuse, tension or rejection because of sexual orientation, avoidance of difficult situations (e.g. pregnancy, failing grades), rigid rules and authoritarian parenting, adventure seekers, parenting behavior (including parents' inability to cope with stress, substance use, and depression), neglect, parents' disharmony (e.g. arguing, divorce, and domestic violence), and adjustment to family blending (e.g., step-parent). These categories vividly capture the escape from negative stimuli, but only categorize approach or "running to" runaway behavior via the adventure-seeking dimension.

Generally, little is known about motivational factors for elopement from OOH treatment. This dearth of findings was partially offset by two early studies that interviewed youth and staff members regarding elopements from small inpatient settings. First, in an intensive inpatient hospital setting, Benalcazar (1982) described motivational factors of fifteen youth who eloped via interviews as: peer pressure, staff-changes, inpatient turnover, impulsive decision making, and anxiety. These findings imply the importance of relationships developed during a treatment episode. Specifically, rapport between a client and staff may be a factor aiding conformity to rules, which dissolves

with changes in personnel. Counter to the review of research on predictors, anxiety was identified as a motivational factor (Benalcazar, 1982). Second, anecdotal evidence from a hospital treatment facility suggested youth misunderstanding of staff perspectives regarding elopement can contribute to the problem (Levy, 1972). This disconnect is depicted as two-fold, as staff members feel a loss of control of clients who eloped from the hospital, and therefore punish the youth upon their return (Levy, 1972). The commonalities between research findings of elopement from OOH treatment confirm that distancing with authority figures, attachment to negative peer groups, and the rewards of being on the street may motivate and reinforce elopement behavior. Both studies, however, represent small samples with limited generalizability that requires further study.

Current Study

OOH treatment has an important role in the mental health system of care service array (Burns et al., 1999; Children's Mental Health Ontario, 2000). The provision of these high-end services may be best for youth who require separation from family or caregivers, increased supervision, or separation from the community (Barker, 1988). An elopement episode disrupts a youth's treatment course, and imposes additional risks for youth and members of the community. While there has been some progress on predicting and understanding the motivation of elopement, more work is needed.

The current exploratory study had two foci that continue the expansion of elopement research. First, it utilized sequential binary logistic regression to contrast youth who eloped against youth who did not elope from their first OOH treatment episode on select variables identified in a preliminary bivariate analysis. Study variables

included security of facilities (i.e., whether or not a site was locked or unlocked), age, primary diagnosis of mood disorder, any diagnosis of disruptive behavior, anxiety, and substance related disorder. This research question examines which youth factors adequately predict elopement by utilizing a mixture of correlations, and regression analyses. Given previous study findings, youth characteristics expected to have a higher likelihood of elopement had an older age, were female, having a higher impairment score, carrying a disruptive behavior disorder diagnosis, a mood disorder, and/or a substance-abuse disorder. Youth expected to have a lower likelihood of elopement were those with lower impairment scores and/or diagnosed with anxiety disorders.

The second research question focused on youth motivations of elopement as perceived by staff, who were mandated to report all such events to CAMHD administrators. Motivational categories were designed to fit previous qualitative research, a preliminary analysis, and were modified during the directed content analysis. Proportional analyses examined differences between the frequencies of major motivational categories. Frequencies and percentages of motivational factors were coded to reflect categories of approach, escape, and peer motivations as developed by directed content analysis. As seen in Appendix B, minor categories count directly into the major categories listed. Given that no known research has developed theories of elopement, no specific hypotheses were offered for the qualitative motivational analysis. Together, the study aimed to align motivational factors with predictors for a comprehensive approach into the investigation of elopement.

CHAPTER 2. METHOD

Source of the Data

The data source for the current study was provided by the State of Hawaii's Child and Adolescent Mental Health Management Information System (CAMHMIS) and Performance Management Sentinel Event reports. CAMHMIS contains information on child registration, service dates, demographics, service authorizations, Child and Adolescent Functional Assessment Scale (CAFAS) scores, provider agencies, and child status for CAMHD registered youth. Sentinel event reports document any occurrence involving serious physical or psychological harm to anyone or risk thereof. Mental health service providers contracted with CAMHD are required to submit documentation within 72 hours of a sentinel event. The purposes of sentinel event records are to establish a system designed to store record information, and to respond when serious physical or psychological incidences occur (State of Hawaii Department of Education and Department of Health, 2006).

OOH Treatment Context

CAMHD is part of the Hawaii Department of Health's Behavioral Health Service Administration. Consistent with Child and Adolescent Service System Program (CASSP) principles, CAMHD strives to provide a comprehensive array of quality mental health services to meet the individualized needs of youth with severe mental and behavioral disturbances (e.g., Hawaii Task Force, 1993). Characteristic of contemporary systems of care, Hawaii's CAMHD attempts to integrate CASSP principles and evidence based practices across the service array, in addition to providing contextualized feedback to

providers with the hope of improving youth outcomes (Higa-McMillan et al., 2011). The current study examined 15 mental health provider agencies in several different sectors of OOH care illustrated in Table 1, including community-based residential centers (Levels I, II, and III), therapeutic group homes, and psychiatric hospitals.

Sample Characteristics

The current study examined archival data for 1,261 youth's first episode in an OOH treatment setting that met the following criteria: 1) procured CAMHD services provided between July 1, 2003 and June 30, 2011, 2) received a community-based residential (Levels I, II, and III), therapeutic group home, or hospital-based residential service, 3) had a full data profile available for all variables of interest (to maintain consistency between analyses), and 4) older than nine years of age. Selection of youth data profiles for assessment information was based upon a multistep criteria. The purpose of utilizing a multistep criteria was to identify a single assessment, for both diagnosis and functional impairment, which prioritizes data prior to entry into OOH treatment. Specifically, the priority order of assessments from highest to lowest was as listed: 1) assessments up to 90 days preceding the start of OOH treatment, 2) assessments up to 30 days after the start of OOH treatment, 3) assessments up to 365 days preceding to the start of OOH treatment, 4) assessments up to 180 days after the start of OOH treatment, 5) assessments prior to 365 days preceding the start of OOH treatment, and 6) assessments subsequent to 180 days after the start of OOH treatment. If youth had multiple assessments within a particular step, the assessment closest to the start of OOH treatment was selected. The age restriction, or removing youth younger than 10 years

from analyses, for the current study corresponded with two issues. First is the ability of younger youth to elope, which records indicated only one nine-year-old was able to accomplish. Second is the limited representation ($n = 28$) of an age younger than 10 years in OOH. Notably, youth at age nine years and younger were three standard deviations outside of the mean. Of the initial 1,505 clients, these restrictions resulted in the current study's final dataset 1,261 clients.

The current study was based in Hawaii, which is known for its ethnic and cultural diversity. Youth ethnicities identified in the current study ($N = 1,261$) were multiracial (55.4%), Caucasian (15.4%), Hawaiian or other pacific islander (11.7%), Asian (7.1%), Black or African American (1.7%), American Indian or Alaskan native (0.4%), and 7.6% without a recorded race. The average age, as determined at the time youth entered initial OOH treatment episode, of the final study's sample was 15.37 years ($SD = 1.86$), and 62.4% of youth were male.

Assessment of youth diagnoses were determined by mental health professionals based on Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Text Revision criteria (American Psychiatric Association, 2000). Youth in the study met criteria for a primary or any (i.e., primary, secondary, or tertiary) diagnosis of adjustment, anxiety, attentional, disruptive behavior, mood or substance abuse related disorders, and all other miscellaneous disorders not previously categorized. Diagnostic categories included youth that met criteria for diagnosis of adjustment disorders (309.00, 309.24, 309.28, 309.30, 309.40, 309.90), anxiety disorders (300.02, 300.30, 309.21, 300.23, 300.29, 300.01, 300.22, 300.21, 308.30, 309.81, 293.89, 300.00), attention disorders

(314.00, 314.01), disruptive behavior disorders (312.80, 313.81, 312.90), mood disorders (296.XX², 293.83, 296.83, 300.40, 301.13, 311.00), substance abuse related disorders (291.XX, 292.1X, 292.84, 303.XX, 304.XX, 305.XX), and all other miscellaneous disorders not previously categorized. As shown in Table 2, primary and any diagnosis of disruptive behavior (i.e., 38.2% and 62.4% respectively) and mood disorders (i.e., 22.4% and 39.4% respectively) accounted for the highest proportion of youth diagnoses.

An elopement episode occurred in 40.7% ($n = 513$) of youth's initial OOH treatment, consistent with the rates found in research on elopement and runaway from non-treatment OOH care (e.g., Biehal & Wade, 1999; Courtney & Wong, 1996; English & English, 1999; Nesmith, 2006; Sunseri, 2001). An important system factor in the current analysis was whether or not the facility was locked or unlocked (State of Hawaii Department of Education and Department of Health, 2006). As seen in Table 2, 963 (76.4%) youth received an initial unlocked OOH treatment.

Human Subjects Considerations

This study was approved by the University of Hawai'i at Mānoa's Committee on Human Studies Institutional Review Board. Upon entry into CAMHD, youth clients and their legal guardian provided written informed consent for the use of data for research purposes (Appendix A). The current study met the stated standards of the Health Insurance Portability and Accountability Act (HIPAA) and Family Educational Rights and Privacy Act (FERPA).

Measurement and Procedures

Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1994).

The CAFAS is a clinical assessment of youth's level of functional impairment. Case managers in CAMHD assess level of impairment within eight domains of functioning based on their experiences with clients. School role performance, home role performance, community role performance, behavior toward others, mood/emotions, mood/self-harmful behavior, substance use, and thinking subscale scores were calculated by scoring the highest level of impairment (i.e., severe = 30, moderate = 20, mild = 10, no/minimal = 0) endorsed within the respective domain of items. Total CAFAS scores were obtained by summing youth's functional impairment subscales, which has a range from 0 to 240, with higher scores indicating greater overall functional impairment. The CAFAS has been shown to have internal consistency across items, inter-rater reliability across sites, and stability across time (Hodges, 1995; Hodges & Wong, 1996). Studies support that the CAFAS demonstrates concurrent validity with scores related to severity of psychiatric diagnosis, intensity of care provided, restrictiveness of living settings, juvenile justice involvement, social relationship difficulties, school-related problems, and risk factors and may be used to track treatment change (Hodges & Gust, 1995; Mueller et al, 2010; Nakamura et al., 2007). As shown in Table 2, the average CAFAS at start of initial OOH treatment was 129.86 (SD = 33.31).

Sentinel Event Reports and Content Analysis. To address the second research question regarding analysis of youth motivations of elopement, a directed content analysis of CAMHD sentinel event reports was utilized. A codebook was developed, as seen on Appendix B, and then applied by two trained undergraduate coders. Narrative data describing each youth's first elopement as measured on the Sentinel Event Report

sections B through J (Appendix C) were examined for coding. These sections include a summary of the event, antecedents, consequences, a list of individuals involved, hypothesized cause, and potential preventative actions.

Codebook taxonomies were generated from previous research and a pilot analysis, which indicated escape (Miller & Eggertson-Tacon, 1990; Tyler et al., 2011; U.S. Department of Justice, 2010), approach (Homer, 1973; Levy, 1972; U.S. Department of Justice, 2010), and peer influence (Benalcazar, 1982) as major motivating factors of elopement. A pilot test, which utilized 20 sample reports outside the parameter of the current study, identified subcategories and collected data to assess scale reliability. Subcategories were created by grouping stimuli within major categories as identified in pilot coding of elopement episodes. For example, youth who indicated to peers the intent to leave the premise to consume alcohol or smoke marijuana became the approach subcategory of drugs. The coding process included scoring all relevant motivational subcategories, allowing for multiple endorsements per case. The presence of one or more scores within a subcategory automatically counted toward the relevant major category. For example, if a youth was assessed to have run in order to return to a family member's house, the coder scored the case as "Approach Family," which automatically counted into the major category of an approach elopement.

The final content analysis randomly selected 300 Sentinel Event Reports of youth who had eloped from OOH treatment, which utilized Microsoft Access to develop random number generator to assign values and select cases. Each case was double-coded, and differences were resolved by the primary investigator. Non-elopement and missing

files ($n = 106$) were excluded from the analysis, and replaced with the next random selection.

Undergraduate research assistants (URAs) were individually trained on coding procedures using practice cases outside the current study's parameters. Further, URAs were required to match codes on 80% of 20 selected sentinel event reports coded by the primary investigator. Proficiency in utilization of the codebook was maintained via weekly meetings, which also allowed feedback from URAs to address ambiguities in the codebook. Amendments to the codebook derived from these meetings included the addition of keywords that served as indicators of endorsement into a subcategory (i.e., given a keyword was used, the associated category was scored), and descriptions of differentiation between similar categories. Inter-rater reliability was analyzed via Cohen's Kappa (Davies & Fleiss, 1982) per each major and minor category, and was evaluated using Landis and Koch's (1977) guideline characterizations of values.

Data Analytic Strategy

Preliminary Bivariate Analysis. Bivariate statistical techniques were employed as a preliminary analysis to inform the sequential binary logistic regression. The current study hypothesized several associations between youth elopement and youth characteristics derived from previous research. In order to identify relevant predictors, appropriate correlation (i.e., Pearson's product-movement, phi, contingency, and point biserial) coefficients were calculated per each variable of interest. Variables evaluated in the bivariate analysis include security of facilities (i.e., whether or not a site was locked or unlocked), age, gender, measurement of functional impairment, and the combination

of primary or any diagnosis of attentional, anxiety, disruptive behavior, mood, and substance related disorders. Significant, but non-redundant, predictors were then entered into the model. Given two redundant predictors (e.g., any diagnosis of disruptive behavior disorder and primary diagnosis of disruptive behavior disorder), the variable with the higher bivariate correlation coefficient with elopement was selected.

Sequential Binary Logistic Regression. The current study utilized sequential logistic regression to assess youth characteristics as predictors of elopement. The security of facilities was controlled for via lesser or early block entry into the logistic regression. Significant youth characteristic variables in the preliminary bivariate analysis were then entered into the major or later block step. This process tests the ability of youth characteristics to add to the prediction of elopement above that of the lesser step (Tabachnick & Fidell, 2001). In addition to examination of the Wald Chi-Square and odd ratios per individual predictor, a Chi-Square test of -2 Log Likelihood was employed to assess the addition of youth characteristics in the prediction of elopement. Interaction between the predictor age (a continuous predictor) and of natural log transformation of age in the logistic regression tested the linearity of the logit assumption (Hosmer & Lemeshow, 1989). Standardized residuals and Cook's distance were then analyzed for outliers and influential cases (Field, 2013). Following, visual inspection for general multicollinearity³ diagnostics were assessed (Field, 2013).

Directed Content Analysis and Point-Estimation. The purpose of a directed content analysis in the current study was to consolidate, and expand the preexisting framework of the motivational taxonomy of elopement behavior (Hsieh & Shannon,

2005). Coders were assigned to select all relevant subcategories, allowing multiple motivational categories to represent a single elopement episode. Proportional interval estimation, as tabulated by Bromaghin (1993), with the current sample size for the content analysis had a conservative degree of accuracy of 7.5% ($\alpha = .05$) per each major category.

The current study had two aspects in the examination of the content analysis results. First, frequencies and proportions were reported for both major and minor categories. The total preorders, or rank orders, of different motivational factors were then sequentially assigned by associating higher frequencies with lower values (e.g., a rank order of one represents the highest frequency and proportion). Second, dependent-proportion T-tests (Arsham, 2006) were utilized to investigate significant differences only between juxtaposed ranked major motivational factors (i.e., ranks of first and second were examined followed by second and third), which reduced the problem of multiple comparison (i.e., Type 1 error).

CHAPTER 3. RESULTS

Descriptive Statistics of Youth Elopement

Overall, 40.7% ($n = 513$) of youth had eloped from their initial OOH treatment placement. As shown in Figure 1, the average length of youth's OOH treatment episode in days was 143.06 ($SD = 133.96$), with a median of 112 days. The results in Figure 2 indicate that of the youth who had an elopement from their first OOH treatment episode, the average length of treatment prior to first elopement was 58.01 days ($SD = 62.73$), with a median of 36 days. A quarter of youths were reported to elope 11 days or earlier following entry into their first OOH placement.

Bivariate Analysis

The bivariate analysis examined the relationship between potential predictors and elopement. As reported on the bivariate correlation matrix on Table 3, unlocked services was highly related to elopement ($\phi = .37, p < .001$). Youth characteristics found to be associated with a higher likelihood of elopement include higher age ($r_{pb} = .12, p < .001$), primary diagnosis of disruptive behavior disorder ($\phi = .14, p < .001$), any diagnosis of disruptive behavior disorder ($\phi = .15, p < .001$), and any diagnosis of substance related disorder ($\phi = .09, p = .001$). Results also indicate the following youth characteristics associated with a lower likelihood of elopement: primary diagnosis of anxiety disorder ($\phi = -.07, p < .01$), any diagnosis of anxiety disorder ($\phi = -.09, p < .01$), and primary diagnosis of mood disorder ($\phi = -.08, p < .01$). These results directly influenced the selection of predictors analyzed in the logistic regression analysis. Notably, all youth

characteristic predictors were significantly associated with the variable of unlocked and locked facilities.

Sequential Binary Logistic Regression

While primary diagnosis of disruptive behavior and anxiety disorder had shown significance in the bivariate analysis, they were excluded from the logistic regression analysis to eliminate redundancies caused by the entry of the any diagnosis of disruptive behavior and anxiety disorder. Altogether, the sequential logistic regression had the lesser entry of the security of facilities followed by the major entry of age, any diagnosis of anxiety disorder, any diagnosis disruptive behavior disorder, any diagnosis of substance related disorder, and primary diagnosis of mood disorder. The cross tabulation of predictors entered into the sequential logistic regression are presented on Table 4.

The sequential logistic regression, as summarized on Table 5, found that lesser entry of the dichotomous variable of locked and unlocked facilities significantly predicted elopement $\chi^2(1, N = 1,261) = 207.35, p < .001$. With the inclusion of youth characteristics, unlocked facilities again were associated with elopement ($B = 2.44, SE = .24; Wald = 105.31, p < .001$). Youth characteristics entered altogether in the major step were approaching significant improvement to the model $\chi^2(5, N = 1,261) = 10.43, p = .06$. The only significant youth characteristic predictor was diagnosis of disruptive behavior disorder ($B = .35, SE = .13; Wald = 6.25, p < .01$). The assumption of linearity of the logit test for age was approaching significance ($B = -2.84, SE = .62; Wald = 20.84, p = .06$), which indicates a high likelihood of underestimation of the predictor (Hancock & Mueller, 2010).

Visual inspection of influential cases via Cook's distance did not indicate any means for removal of cases. Outliers ($n = 23$) in the dataset, however, were discovered via standardized residuals outside previously mentioned criteria. All outliers were youth who eloped from the locked facilities, and were often diagnosed with a primary mood or any disruptive behavior disorder. While outliers to the analysis, these cases were not removed. Additionally, general criteria did not indicate problems with multicollinearity³.

Content Analysis

The current study utilized a directed content analysis to examine the frequency of various motivational factors of elopement. Prior to analysis, agreement among coders was examined via Cohen's kappa (Davies & Fleiss, 1982). Results indicated moderate ($k = .41$ to $k = .6$) to almost perfect ($k = .81$ to $k = 1$) agreement (Landis & Koch, 1977). As seen in Table 5, inter-rater reliability for the major categories of escape ($k = .79$, $p < .001$), approach ($k = .83$, $p < .001$), and peer influence ($k = .90$, $p < .001$) illustrated significant agreement. Inter-rater reliability for minor categories ranged from the highest agreement in approach sexual attraction ($k = .93$, $p < .001$), and lowest agreement in escape rules and regulations ($k = .41$, $p < .001$).

As seen in Table 6, results illustrated that of the 300 youth elopements, peer influence was the most commonly identified taxonomy ($n = 162$, 54%), followed by escape ($n = 148$, 49%), and approach ($n = 107$, 36%). While peer influence was not significantly more prevalent than escape $t = 1.154$, $p = .25$, escape motivational taxonomy was endorsed more than approach $t = 4.70$, $p < .001$. The coding procedure, however, failed to identify a relevant taxonomy for 19 or 6.3% of elopement episodes.

Generally, these cases either had no information regarding motivation of the elopement ($n = 11$) or reported the cause as the youth was “new to the program” ($n = 6$).

CHAPTER 4. DISCUSSION.

Youth elopement is considered to be a common problem behavior in OOH treatment. The current study had two foci utilizing 1,261 youth's initial OOH treatment episodes across 15 agencies in a public mental health system of care, which randomly selected 300 elopement episodes for motivational analysis. First, sequential binary logistic regression was utilized to examine selected predictors associated with a youth's first elopement. Second, a coding system was developed and implemented to assess elopement related motivational categories as described in provider accounts of each elopement episode.

The current study was unique in several regards. Particularly, it was the first to isolate youth's initial OOH treatment episode, thereby removing the effects of previous elopement behavior in the analysis. By targeting youth's first OOH treatment episode, this study investigated predictors of youth's initial elopement against youth who did not elope. Additionally, the current study was also one of the few in modeling predictors together, which increases the ability to distinguish potential confounds of previous bivariate findings. Last, no known study has attempted to develop a motivational taxonomy of elopement with an adequate sample size. Due to these issues, current study findings are exploratory.

Results indicate that elopement is a serious problem upon initial entry to CAMHD OOH treatment, with 40.7% of youth within this study having an elopement episode. Over a quarter of elopements were found to occur in the first two weeks, which may indicate a need for improving transitions into OOH treatment. Previous studies reported

the association between runaway behavior and factors such as placement instability (Courtney & Zinn, 2009; English & English, 1999), staff changes (Benalcazar, 1982), disconnect between clients and staff members (Levy, 1972), and client victimization by staff (Attar-Schwartz, 2012) that alludes to a need for a consistent, nurturing environment portrayed in treatment goals of OOH treatment centers (Rosen, 1998). The current study's findings that 49% of youth elopements had an identified motivation of escape, and the highest classified subcategory was "anger or frustration" reinforces this idea. Therefore enhancing rapport building procedures between clients and staff via training is posited to improve this disconnect, and assuage the negative emotions thought to elicit elopement behavior. Notably, such procedures should take place upon entry into the OOH service.

Of the youth characteristics examined in the model, diagnosis of disruptive behavior disorder was significantly associated with an increased likelihood of youth elopement after controlling for the variance accounted by the security of facilities. This result supports the concept that runaway is associated with disruptive behavior (Courtney & Zinn, 2009; English & English, 1999; Kashubeck et al., 1994; McIntosh et al., 2010; Nesmith 2006). The bivariate relationship between any diagnosis of substance related disorder supports as well; however, this association becomes insignificant in the model, muddling the nature of the relationship. Any diagnosis of anxiety and primary diagnosis of mood disorder were found to be associated with a decreased likelihood of elopement in the bivariate analysis. While both variables lose this association when entered into the model, the direction of the correlation was opposite of Kashubeck's (1994) finding.

Altogether, differences between diagnostic findings both internal to the study and in contrast to previous research may indicate such predictors, with the exception of disruptive behavior, are not suitable identifiers of elopement behavior.

Previously mentioned, motivation of runaway behavior has focused little on and found sparse results regarding approach or “run to” behavior (e.g., Miller & Eggertson-Tacon, 1990). The current study identified 36% of elopement reports contain this motivational aspect. Within this major category, the subcategory of approaching drugs was identified in 16% sentinel event reports. These results are consistent with prior findings that both substance use (McIntosh et al., 2010), and substance-related disorders (Courtney & Zinn, 2009) are associated with a higher likelihood of elopement. Previously stated, the predictors of both primary and any substance related disorder were not identified as adequate indicators of elopement behavior. These mixed results within the current study may be a function of differences between diagnosis and drug seeking behavior. Alternatively, youth who were identified with substance related disorders may receive additional treatments to aid drug seeking behavior, and prevent an elopement episode from occurring. Altogether, results suggest early integration of substance use interventions, inclusive of youth who have not necessarily met criteria of diagnosis, within OOH treatment might aid in preventing elopement.

The current study found that subcategories of peer influence and anger or frustration were commonly identified in elopement sentinel event reports. Specifically, the motivational taxonomy of anger or frustration included conflicts with staff members, and other clients; additionally, peer influence required the youth to elope with another

client from the same service agency (otherwise code would indicate approach friend). Peer influence had the largest general, or “not otherwise specified,” subcategory. With this limitation, 38 youth in the current study were reported to be followers of other youth, and 9 youth were reported as leaders. Otherwise stated, for every one leader, there are four followers. These study finding supports the concern of iatrogenic effects of OOH treatment facilities (Barth, 2005; Dishion et al. 1999), peer pressure as a motivation for elopement (Benalcazar, 1982), and the possible disconnect between therapists and clients (Levy, 1972).

Limitations

The findings of this study should be interpreted within the context of its limitations. First, the methodology included youth characteristics obtained via a multistep criteria. Using diagnosis, or functional impairment closest or prior to the elopement episode may yield different results. Additionally, the current study utilized data from fiscal year 2003 to 2011 that may include system change in policies and procedures, which could lead to systematic variability in the measures, the function of OOH treatment centers, and the types of interventions employed. Notably, some of the OOH treatment center agencies in the study are not currently contracted with CAMHD.

Elopement in the current study was defined as leaving an OOH treatment site for an hour or more. The current study was unable to evaluate the duration of an elopement period. The inability to account for the duration of elopements allows a mix of temporary elopement episodes (e.g., an hour) and long-term elopement episodes (e.g., a week) to be considered identical within the current study context.

The content analysis is dependent on the validity of sentinel event reports, which are completed by agency staff members as a function of protocol. Biases within staff members perception of target youth, and in writing the report (e.g., how the report may reflect on staff member, agency, client, etc.) would appear in the study's aggregated findings. While staff members are a sensible perspective of youth behavior, especially in an OOH treatment setting, further investigation of other stakeholders (e.g. client, family, teachers) perception of an elopement event would enhance study findings.

Further Research

The current study assessed youth characteristics as predictors of elopement behavior upon entry to their initial OOH treatment placement. In regards to the ability of diagnostic category, primary or any, to be utilized as a predictor of elopement was generally inconclusive. Contrasting results with information available following placement may yield different results, including improvement of the current study's model.

In the context of a system of care, youth may receive different levels of treatment across the service array. While previous research had indicated placement instability as a risk factor of run away in non-treatment OOH care (Courtney & Zinn, 2009; English & English, 1999), no study analyzed this effect within a public mental health system of care. While the current study utilized information regarding initial OOH treatment placement, there were no analyses done of previous services in youth's treatment history (e.g., intensive in home, functional family therapy, etc.). Assuming the mechanism behind the former finding is that youth in multiple placements do not have a dependable

and reinforcing social network, which causes runaway behavior; then it is possible that modifications of service delivery engenders elopement behavior. However, increased modifications in services (i.e., high placement instability) may also serve as an indicator of youth who are unresponsive to treatment, or lack of availability of an appropriate service for an individual client.

The current study's operational definition of OOH treatment excluded services related to therapeutic foster home. These types of services may better align with research in youth who run from home, as opposed to community residential or hospital placement. While outside the scope of the current study, future research accounting for therapeutic foster care and possible differences from community residential may inform general OOH treatment service delivery.

FOOTNOTES

¹ General runaway behavior encompasses multiple behavioral phenomena including youth elopement from residential or OOH treatment (e.g. therapeutic foster home), youth runaway from non-treatment OOH care (e.g. foster care and residential care), youth runaway from home, and youth living on the streets and homeless shelters.

² XX represents multiple codes within a diagnostic category.

³ Multicollinearity guidelines of tolerance values less than 0.1 (Menard, 1995) and variance inflation factor greater than 10 (Myers, 1990) were met in the final sequential logistic regression model.

TABLES

Table 1. *Description of out-of-home levels of care as described in interagency performance standards and practice guidelines (ISPG, 2006).*

Description of Service	CBRI	CBRII	HBR	CBRIII	TGH
24-Hour Locked Care	X	X	X		
24-hour structured care for youths who are unable to function with their family and/or community				X	X
Evidence based treatment interventions and a supportive therapy milieu	X	X	X	X	X
Opportunities for the youth to engage in structured recreational activities	X	X	X		
Opportunities for the youth to engage in structured and community-based recreational activities				X	X
Individual Therapy at least one time per week	X	X	X	X	X
Group Therapy at least one time per week	X	X	X	X	X
Family Therapy at least two times per month	X	X	X	X	
Family therapy at least once per week					X
On-site educational program	X	X	X	X	
Structured pre-vocational and vocational training	X	X		X	
Psychiatric and nursing services			X		
Substance abuse treatment and education	X	X	X	X	X
Diagnostic and assessment services			X		
Culturally relevant recreational and social group activities					X
Integrated services planning			X		
Intensive family/systems treatment focused on safely transitioning youth to a lesser level of care			X		

Note. CBR = “Community Based Residential”; HBR = “Hospital Based Residential; TGH = “Therapeutic Group Home”.

Table 2. Summary statistics of youth descriptives ($n = 1,261$).

<i>Source</i>	<i>Frequency (# youth)</i>	<i>Percent (%)</i>	<i>Mean</i>	<i>SD</i>
<i>Service Provider</i>				
Provider1 ^a	17	1.35		
Provider2 ^b	174	13.8		
Provider3 ^a	16	1.27		
Provider4 ^a	32	2.54		
Provider5 ^b	16	1.27		
Provider6 ^b	105	8.33		
Provider7 ^b	96	7.61		
Provider8 ^b	32	2.54		
Provider9 ^b	58	4.6		
Provider10 ^a	64	5.08		
Provider11 ^b	121	9.6		
Provider12 ^b	36	2.85		
Provider13 ^b	226	17.92		
Provider14 ^b	72	5.71		
Provider15 ^a	196	15.54		
<i>Unlocked Facilities</i>	963	76.4		
<i>Age</i>			15.37	1.86
<i>Gender(Male)</i>	787	62.4		
<i>Race</i>				
Not Available	96	7.61		
American Indian or Alaska Native	5	0.4		
Asian	89	7.06		
African American	21	1.67		
Native Hawaiian or Other Pacific Islander	148	11.74		
Caucasian	194	15.38		

Note. ^aLocked Facilities. ^b Unlocked Facilities. Total sample includes $N = 1,261$ youth's initial out-of-home treatment case.

Table 2.(continued)

<i>Source</i>	<i>Frequency (# youth)</i>	<i>Percent (%)</i>	<i>Mean</i>	<i>SD</i>
Other	10	0.79		
Multiracial	698	55.35		
<i>CAFAS Total 8 Score</i>			129.86	33.31
<i>Primary Diagnosis</i>				
Adjustment	50	3.97		
Anxiety	109	8.64		
Attention	139	11.02		
Disruptive	482	38.22		
Behavior				
Miscellaneous	93	7.38		
Mood	282	22.36		
Substance Related	104	8.25		
<i>Any Diagnosis</i>				
Adjustment	83	6.58		
Anxiety	222	17.61		
Attention	374	29.66		
Disruptive	787	62.41		
Behavior				
Miscellaneous	344	27.28		
Mood	497	39.41		
Substance Related	472	37.43		

Note. Total sample includes $N = 1,261$ youth's initial out-of-home treatment case.

Table 3. *Bivariate analysis of correlation coefficient values, and significance (N = 1,261).*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Elopement ^a	1															
2. Locked and Unlocked ^a	0.37**	1														
3. Gender ^a	-0.01	0.03	1													
4. Age ^b	0.12**	0.35**	0.01	1												
5. CAFAS Total 8 ^b	-0.01	-0.17**	0.00	0.01	1											
6. Any Adjustment Disorder ^a	-0.01	0.05	-0.01	0.02	-0.01	1										
7. Any Anxiety Disorder ^a	-0.09**	-0.14**	-0.17**	-0.16**	-0.02	-0.10**	1									
8. Any Attentional Disorder ^a	0.00	-0.04	0.17**	-0.16**	-0.02	-0.05	-0.07*	1								
9. Any Disruptive Behavior Disorder ^a	0.15**	0.19**	0.18**	-0.02	-0.04	-0.14**	-0.24**	0.09**	1							
10. Any Mood Disorder ^a	-0.02	-0.06**	-0.17	-0.01	0.05	-0.19	0.00	-0.06	-0.17	1						
11. Any Substance Related Disorder ^a	0.09**	0.23**	0.02	0.24**	0.13**	-0.04	-0.17**	-0.26**	0.04	-0.11**	1					
12. Primary Adjustment Disorder ^a	0.01	0.06*	-0.01	0.05	0.00	0.77**	-0.09**	-0.07*	-0.15**	-0.16**	-0.04	1				
13. Primary Anxiety Disorder ^a	-0.07*	-0.10**	-0.13**	-0.10**	-0.02	-0.06*	0.67**	-0.09**	-0.20**	-0.10**	-0.10**	-0.06*	1			
14. Primary Attentional Disorder ^a	0.00	-0.03	0.13**	-0.15**	-0.05	-0.02	-0.05	0.54**	-0.03	-0.11**	-0.15**	-0.07*	-0.11**	1		
15. Primary Disruptive Behavior Disorder ^a	0.14**	0.20**	0.12**	0.06*	-0.06*	-0.11**	-0.24**	-0.09*	0.61**	-0.27**	0.13**	-0.16**	-0.24**	-0.28**	1	
16. Primary Mood Disorder ^a	-0.08**	-0.12**	-0.15**	0.00	0.02	-0.13**	0.01	-0.09**	-0.23**	0.67**	-0.12**	-0.11**	-0.17**	-0.19**	-0.42**	1
17. Primary Substance Related Disorder ^a	0.02	0.08**	0.02	0.13**	0.14**	-0.02	-0.12**	-0.12**	-0.17**	-0.07*	0.39**	-0.06*	-0.09**	-0.11**	-0.24**	-0.16**

Note. * $p < .05$. ** $p < .01$. ^a Categorical variable. ^b Continuous variable. Phi (ϕ) coefficient for categorical by categorical variable. Point-biserial (r_{pb}) coefficient for categorical by continuous variable. Pearson's product-movement coefficient for continuous by continuous variable. Gender: Female = 0, Male = 1. Locked and unlocked: Locked = 0, Unlocked = 1. All disorders: No diagnosis = 0, Diagnosis = 1.

Table 4. *Crosstabulations of Elopement and Variables Entered in Sequential Logistic Regression (N = 1,261).*

Source	Youth Elopement		
	No (0)	Yes (1)	Percent Eloped (%)
<i>Locked Facility</i>	275	23	7.72%
<i>Unlocked Facility</i>	473	490	50.88%
<i>Age in Years</i>			
10	32	1	3.03%
11	32	1	3.03%
12	30	9	23.08%
13	57	22	27.85%
14	81	62	43.36%
15	109	116	51.56%
16	166	155	48.29%
17	182	120	39.74%
18	52	25	32.47%
19	7	2	22.22%
<i>Any Diagnosis</i>			
Anxiety Disorder	153	69	31.08%
Disruptive Behavior Disorder	423	364	46.25%
Substance Related Disorder	253	219	46.40%
<i>Primary Diagnosis</i>			
Mood Disorder	187	95	33.69%

Note. Any diagnosis is inclusive of primary, secondary, or tertiary.

Table 5. *Sequential Binary Logistic Regression of Elopement (N =1,261).*

		<i>B</i>	<i>S.E.</i>	<i>Wald</i>	<i>df</i>	<i>Sig.</i>	<i>Odds</i>	<i>95% C.I. for Odds</i>	
								<i>Lower</i>	<i>Upper</i>
Step 1									
	<i>Constant</i>	-2.48	0.22	130.68	1	0.00	0.08		
	<i>Locked and Unlocked</i>	2.52	0.23	123.53	1	0.00	12.39	7.95	19.31
Step 2									
	<i>Constant</i>	-2.52	0.64	15.59	1	0.00	0.08		
	<i>Locked and Unlocked</i>	2.44	0.24	105.31	1	0.00	11.43	7.18	18.19
	<i>Age</i>	0.00	0.04	0.01	1	0.91	1.00	0.92	1.08
	<i>Anxiety Disorders</i>	-0.17	0.18	0.86	1	0.35	0.84	0.59	1.21
	<i>Disruptive Behavior Disorders</i>	0.35	0.14	6.25	1	0.01	1.42	1.08	1.87
	<i>Substance Related Disorders</i>	0.00	0.13	0.00	1	1.00	1.00	0.77	1.29
	<i>Pri Mood Disorders</i>	-0.10	0.16	0.37	1	0.54	0.91	0.66	1.24

Note. ** $p < .01$, * $p < .05$; Restriction is coded 0 = Locked, 1 = Unlocked; Gender is coded 0 = Females, 1 = Males; Primary Diagnosis of Disruptive Behavior Disorder in addition to other diagnostic categories above are coded 0 = No Diagnosis, 1 = Criteria met for specified diagnostic category.

Table 6. Number of non-endorsed and endorsed matches, number of mismatches, and inter-rater reliability kappa coefficients for major categories and subcategories of motivational taxonomies as defined in content analysis.

Source	# Non-Endorse Match	# Endorsed Match	# Mismatch	Kappa
Approach	179	97	14	0.83*
Drugs	248	43	9	0.89*
Friends	289	7	4	0.77*
Family	262	23	15	0.73*
Sexual Attraction	274	23	3	0.93*
Escape	129	139	32	0.79*
Rules/Regulations	259	15	26	0.49*
Expectation of Punishment	271	12	17	0.55*
Fear/Anxiety	256	30	14	0.78*
Sadness/Depression	274	14	12	0.61*
Anger/Frustration	180	91	29	0.79*
Peer Influence	130	155	15	0.90*
Follower	244	26	30	0.58*
Leader	290	7	3	0.82*

Note. * $p < .001$.

Table 7. Content analysis frequency, percent distributions, and rank of motivational categories by associated group (n = 300).

	<i>Frequency</i>	<i>Percent</i>	<i>Frequency Ranked</i>
<i>Major Categories</i>			
Peer Influence	162	54%	1
Escape	148	49%	2
Approach	107	36%	3
<i>Minor Categories</i>			
Anger/Frustration	103	34%	1
Drugs	47	16%	2
Follower	38	13%	3
Fear/Anxiety	35	12%	4
Family	29	10%	5
Sexual Attraction	25	8%	6
Rules/Regulations	22	7%	7
Expectation of Punishment	18	6%	8
Sadness/Depression	18	6%	9
Leader	9	3%	10
Friends	8	3%	10
<i>General Categories</i>			
Peer Influence NOS	115	38%	1
Approach NOS	14	5%	2
Escape NOS	9	3%	3

Note. Total percentage is greater than 100% because elopements were allowed simultaneous codes across categories.

FIGURES

Figure 1. *Frequency of the number of youth discharged by length of initial OOH treatment episode, and summary statistics.*

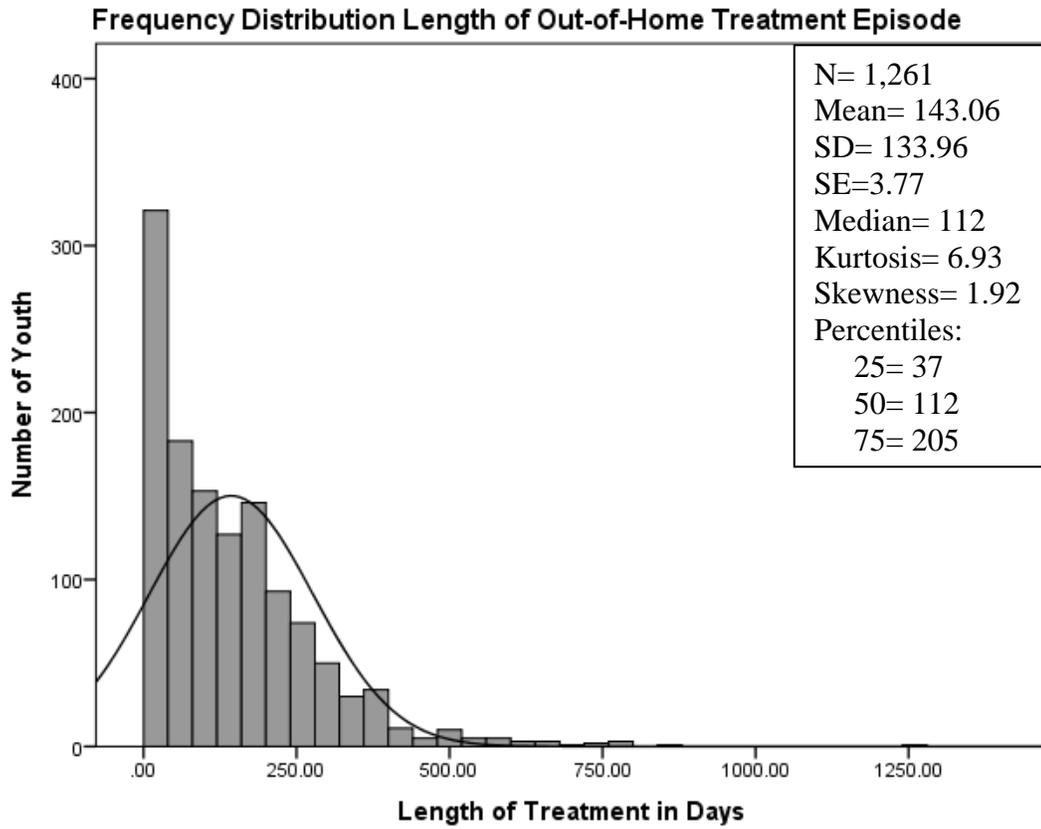


Figure 2. *Frequency of the number of youth who eloped by number of days elapsed until first elopement, and summary statistics.*

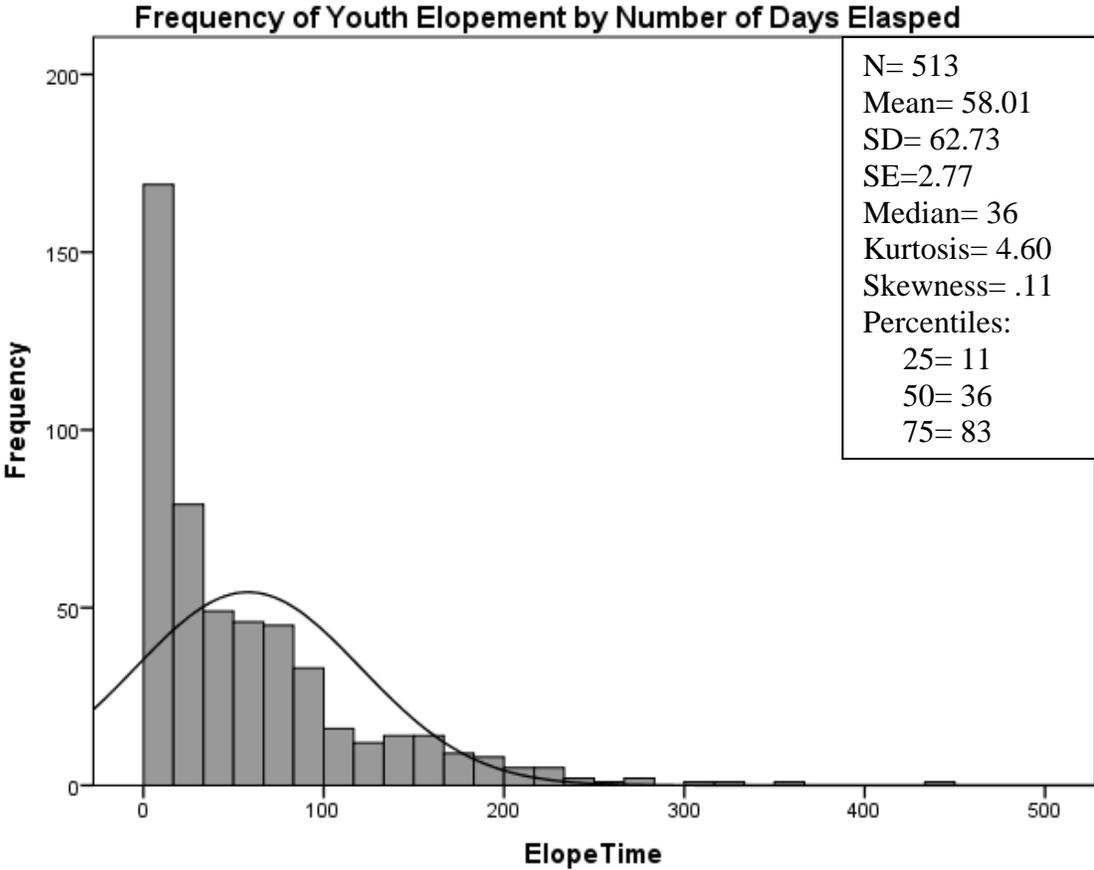
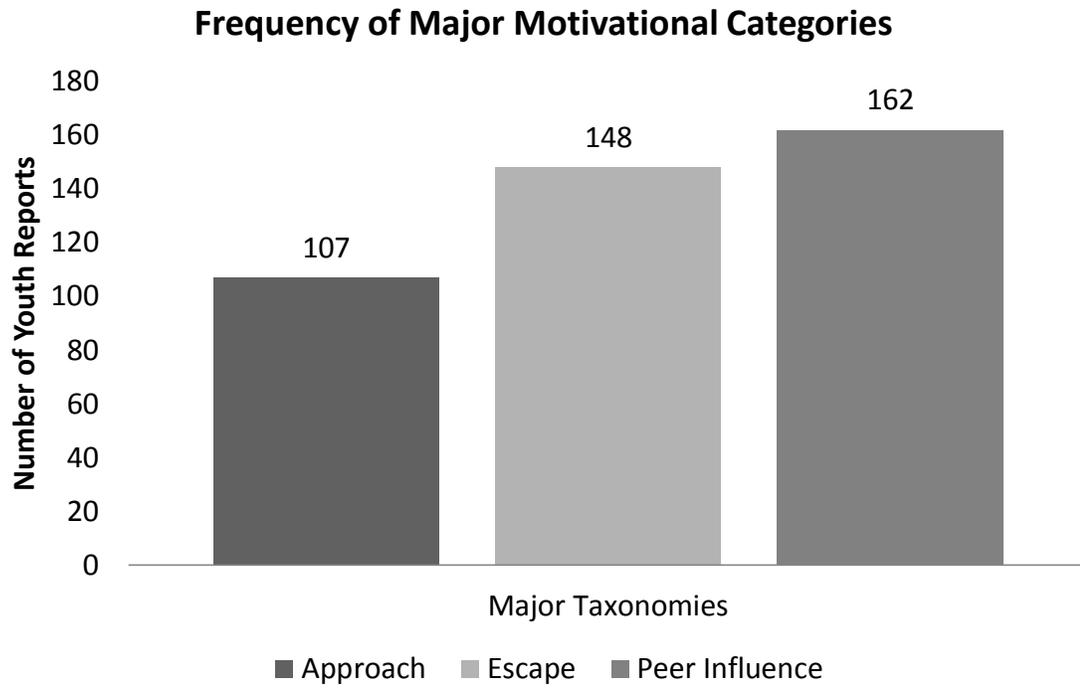
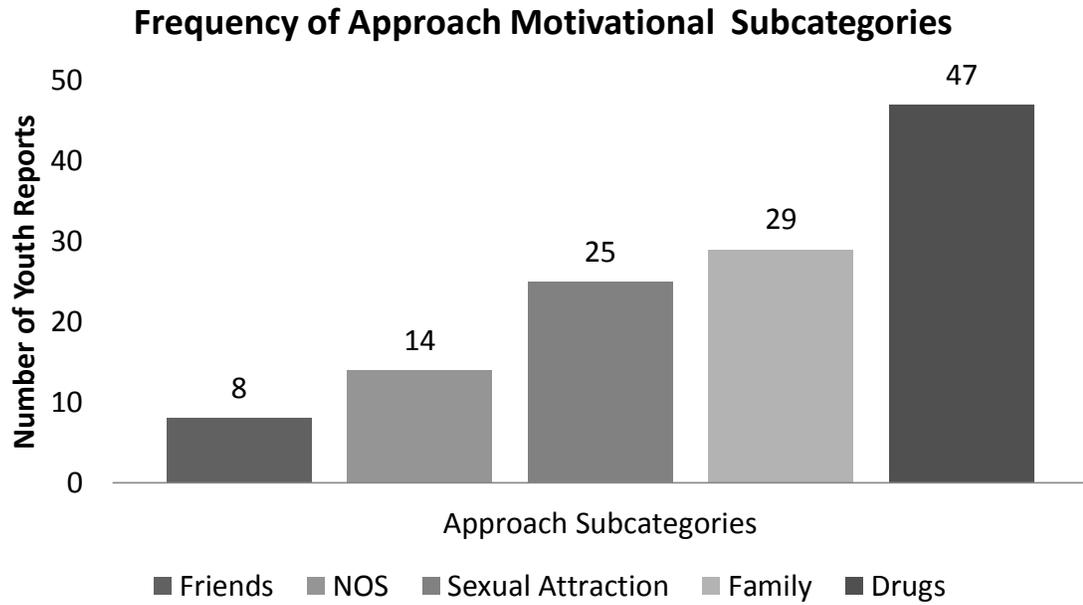


Figure 3. *Frequency of major motivational categories in number of youth elopement reports (n = 300).*



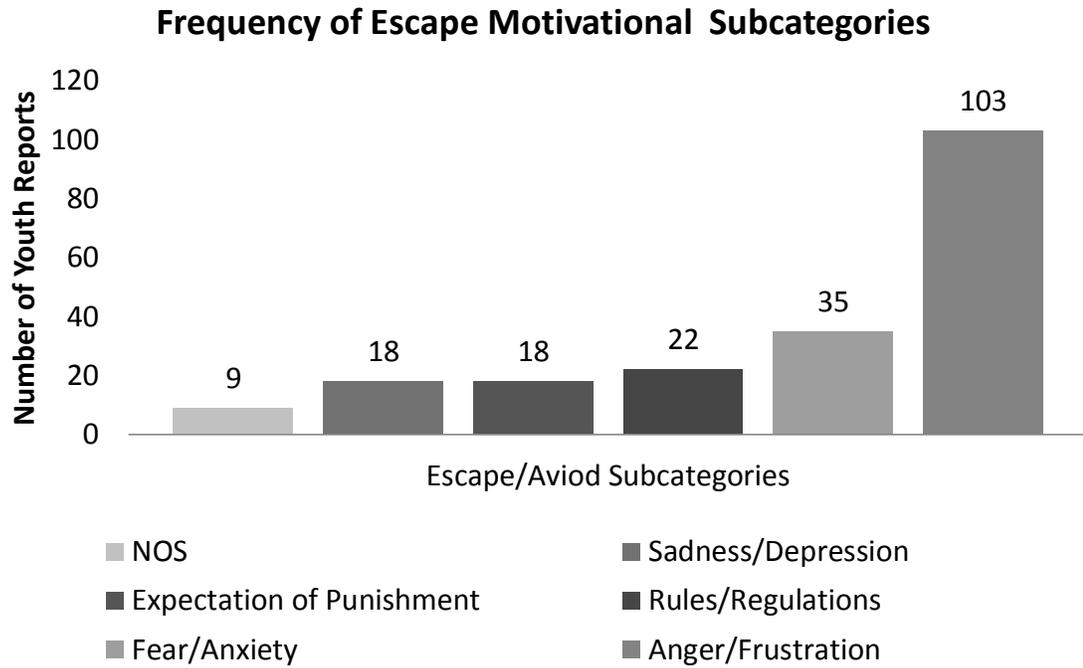
Note. Youth elopement reports were allowed simultaneous codes across categories.

Figure 4. *Frequency of approach motivational subcategories in number of youth elopement reports (n = 300).*



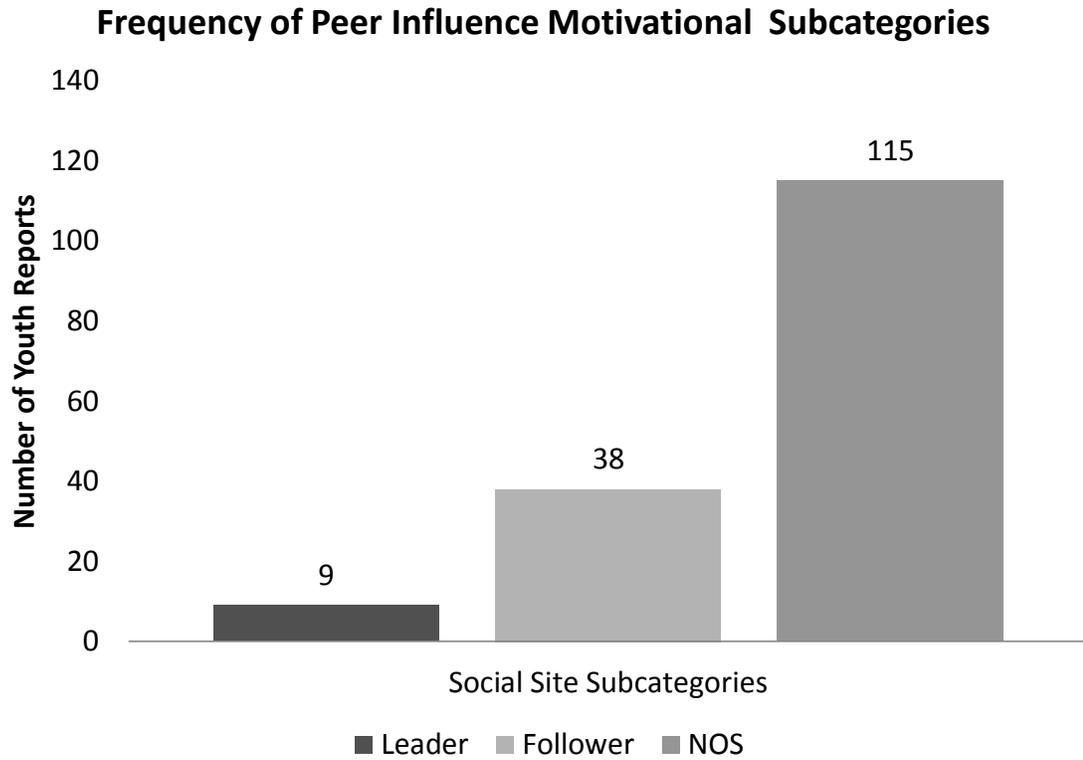
Note. Youth elopement reports were allowed simultaneous codes across categories.

Figure 5. Frequency of approach motivational subcategories in number of youth elopement reports (n = 300).



Note. Youth elopement reports were allowed simultaneous codes across categories.

Figure 6. *Frequency of the number of youth who eloped by number of days elapsed until first elopement, and summary statistics.*



Note. Youth elopement reports were allowed simultaneous codes across categories.

APPENDICES

Appendix A

CAMHD Notice of Privacy Practices

Child and Adolescent Mental Health Division

Notice of Privacy Practices

Effective April 14, 2003

**Child and Adolescent Mental Health Division
("CAMHD")**

**THIS NOTICE EXPLAINS HOW MEDICAL INFORMATION ABOUT
YOUR CHILD MAY BE USED AND DISCLOSED. IT ALSO EXPLAINS
HOW YOU CAN ACCESS THIS INFORMATION. PLEASE READ IT
CAREFULLY.**

Understanding Your Child's Protected Health Information:

CAMHD staff and doctors take notes each time your child visits them. They write down what they think is your child's condition and how they plan to care for them. Your child's health record has information that can identify him or her. This kind of information is known as "Protected Health Information." Your child's name and Social Security number are types of PHI. If you know what is in the health record you can better protect your child's Protected Health Information ("PHI"). You can also ask how PHI will be used. You can decide if PHI should be disclosed. You can make sure that the health record is accurate.

Our Duties:

CAMHD must:

- Protect the privacy of PHI.
- Tell you about our legal duties.
- Tell you about our privacy practices. You have the right to know how CAMHD uses PHI.
- Abide by this notice.

CAMHD can change its practices at any time. We will mail you a copy of any new notice within 60 days.

CAMHD will ask for your consent before disclosing PHI. CAMHD can disclose PHI without your permission. But any release of PHI will follow the law, as explained in this notice.

Your Child's Health Information Rights:

CAMHD owns your child's health record. However, the information in the record belongs to

your child. On behalf of your child you have the right to:

- View or get paper copies of PHI.
- Decide how we send PHI to you. For example, CAMHD usually sends information by mail. You may ask to get PHI by other means, such as fax. You may also ask us to send PHI to another address.
- Ask to limit the use and disclosure of PHI. CAMHD is not required by law to agree to every request.
- Ask for corrections to your child's health record.
- Get an accounting of PHI disclosures.
- Change your mind about allowing use or disclosures of PHI. This does not apply to disclosures that have already happened.

Information that does not identify your child is used for:

- Medical and mental health research.
- Planning and improving services.
- Improving health care.

Examples of Disclosures for Treatment, Payment, and Health Operations:

CAMHD sometimes has to share PHI with other agencies to provide services. CAMHD will only share the minimum necessary PHI with them. We will also require them to protect the PHI they receive.

CAMHD will use and share PHI for the following purposes:

Treatment. For example: A CAMHD professional notes your child's and the treatment team's expectations in the health record. A doctor logs the actions taken and his or her observations. The care coordinator can review your child's record later to see if those goals were met.

Payment. For example: A provider sends a bill to CAMHD. The bill or accompanying materials may contain PHI.

Regular Health Operations. For example: CAMHD staff uses PHI to evaluate treatment outcomes. This helps CAMHD to improve our services.

Other Uses or Disclosures (Permission not Needed):

Business Associates. For example: CAMHD provides some of its services by contract. We may hire an auditor to review financial records. Those records may contain PHI about your child.

Health Oversight. CAMHD may share PHI with certain government oversight agencies. The U.S. Department of Health and Human Services is an example of such an agency.

Law Enforcement. CAMHD may share PHI for law enforcement purposes.

Coroners, Medical Examiners and Funeral Directors. CAMHD may share PHI with people who need it to do this type of work.

Organ Donation and Disease Registers. CAMHD may share PHI with authorized organ donation and transplantation organizations.

Research. CAMHD may share information with researchers under certain conditions. An Institutional Review Board (IRB) must approve the research project. The IRB will also enforce rules that require researchers to keep PHI private.

Public Health. CAMHD may have to disclose PHI to prevent or control disease, injury, or disability. CAMHD may share PHI with public health authorities for those reasons.

Correctional institution. If your child is at a correctional facility, CAMHD can provide PHI to the facility. We will share PHI with the facility when needed to protect the health and safety of your child and others.

Victims of Abuse (including Child Abuse), Neglect or Domestic Violence. CAMHD is required to report all suspected cases of abuse or neglect. CAMHD must contact the Police or Child Protective Services to make a report. These reports may contain PHI.

Specialized Government Functions. CAMHD may disclose PHI for national security or intelligence purposes. We may disclose PHI to protective services for the President. It may disclose PHI to others as required by law.

Judicial and Administrative Hearings. CAMHD may share PHI in judicial or administrative hearings. CAMHD will only share PHI after being served with an order of a court or administrative tribunal. CAMHD may also share PHI to respond to lawful processes. Subpoenas are a common type of lawful process.

Other Government Agencies. CAMHD may share PHI with other government agencies if necessary to verify that your child is entitled to other benefits or services.

Family Educational Rights and Privacy Act (FERPA)

Your child's records may also be considered "education records." CAMHD will only disclose information in your child's education records as allowed by FERPA regulations. The Department of Education provides you with your child's FERPA notice.

For More Information or to Report a Problem:

You may contact us if you have other questions or want more information. Please call the CAMHD Privacy Coordinator at (808) 733-8370. You may also write to:

CAMHD Privacy Coordinator
3627 Kilauea Avenue, Suite 101
Honolulu, HI 96816

You can also file a complaint with the U.S. Department of Health and Human Services. You may contact them at:

Office of Civil Rights
Medical Privacy, Complaint Division
U.S. Department of Health and Human Services
200 Independence Avenue, S.W., HHH Bldg., Room 509H
Washington, DC 20201
Phone: (866) 627-7748
TTY: (886) 788-4989
E-mail: www.hhs.gov/ocr

No one will face retaliation for filing a complaint.

My signature below indicates that I have been provided with a copy of the notice of privacy practices.

Name: _____

Child's Name: _____

Signature: _____

Signature: _____

Date: _____

Date: _____

Relationship to child: _____

Effective Date: April 14, 2003.
Distribution: Original to CAMHD.
Copy to Parent/Guardian.
6/03

Appendix B Elopement Codebook

Elopement Episode: A specific sentinel event characterized by the removing of self from supervision without permission for one or more hours while residing in a CAMHD out-of-home placement (e.g. HBR, CBR, and TGH). If report includes incidence of truancy where the youth is not present at the expected time, do not code and indicate to remove file (truancy is not an elopement). If two or more elopements are described in report, only code the motivational factors of first true elopement (running away for an hour or more).

An Elopement Episode may fall within one (Not Otherwise Specified/NOS if no information on case) or all general categories of elopement (e.g. Approach, Escape, and Peer: “Youth had argument with staff... had mentioned wanting to go smoke pot... convinced a peer client to elope with him”). Accordingly, an episode may also meet criteria for multiple subcategories, please mark each category that applies (e.g. Approach Friends; Approach Drugs: “Youth eloped to see friends from school... youth tested positive for THC upon return”).

Approach/Outside of Site Factors: Behavior characterized by an evidence of motivation towards a reward stimulus obtainable by leaving the site (positive reinforcement - reward stimulus is something of value, and adding more of the stimulus will make youth happy). This category requires the approach stimuli to be a consequence of the elopement, not an antecedent.

1. Approach Drugs: Any indication of motivation to go to an area where drugs (alcohol, tobacco, marijuana, etc.) are available.
 - Actual drug usage is not necessary, rather, intent to leave an area to do drugs. Do not count ambiguous claims of motivation (e.g. youth has had previous history of drug usage)
 - Includes any indication of youth experiencing withdraws from drugs prior to elopement.
 - Testing positive for drugs without previous mention also falls within this category.
2. Approach Friend: Any indication of motivation to go to an area to see or talk with friends not currently associated (not an active client) with the same provider agency.
 - Missing friends (not sadness/depression)
 - Includes any peer not actively receiving service from the same agency (e.g. peer who influenced youth to elope was previously discharged from service)
3. Approach Family: Any indication of motivation to go to an area to see or talk with family.
 - Missing family (not sadness/depression)
4. Approach Sexual Attraction: Any indication of motivation to go to an area to see or talk with boyfriend/girlfriend/prospects.
 - “I was chick sick”

-“Client was denied an unsupervised outing because previously reported unprotected sex”

5. Approach General/Not Otherwise Specified "NOS"/Other. Code other approach behaviors not specified above (e.g. goes to concert, beach, etc.) and complete "Specify approach object or motivation field".

Escape/Inside Site Factors: Behavior characterized by an exhibition of motivation away from a punishing stimulus perceived or actually present within site (covers positive punishment, negative punishment, and negative reinforcement).

- 1) Escape Rules/Regulations: Any indication of motivation to get out of *Non-Law rules and regulations imposed or anticipated to be imposed by staff members (required or expected participation in event, bed-time, time-out, etc.; not smoking, sex, etc.).
- 2) Escape Expectation of Punishment: Any indication of motivation to get out of future expected punishment (e.g. punched peer then eloped, staff called HPD regarding previous offence).
- 3) Escape from Fear/Anxiety: Any indication of motivation to get out of anxiety/fear provoking stimulus/stimuli (e.g. anxiety to go on an outing and in public).

Keywords: unease, worry, uncertainty, pacing, concern, apprehension, restlessness, nervous, stressed, unclear future

- 4) Escape from Sadness/Depression: Any indication of motivation to get out because of sadness/depressive episode (e.g. youth was depressed because of his situation in life).

Keywords: helplessness, hopelessness, feelings of defeat, negative views of self, negative views of current situation, negative views of future, unhappy

- 5) Escape from Anger/Frustration: Any indication of motivation to get out because angry, frustrated, or irritated (e.g. youth became upset because PO extended expelled period).

Keywords: aggression, kicked door, harming others, upset, moment of injustice, destructive, irritation, agitation

- 6) Escape General/ NOS: Code other escape/avoidance behaviors not specified above (e.g. bored, needed to get out).

Peer Influence: Behavior exhibiting motivation to go with or influenced by peer receiving services from provider agency. Includes non-CAMHD youth in the same agency.

- 1) Peer Influence Leader: Any indication of motivation to lead peers to elope (staffs typically identify a leader of the group).
- 2) Peer Influence Follower: Any indication of motivation to follow peers or general action of eloping (e.g. seeing an eloper/witnessing elopement).
- 3) Peer Influence/ NOS: Code other Social Site not specified (“Youth eloped with another client in the night”).

Appendix C
Sentinel Event Report

INTERAGENCY PERFORMANCE STANDARDS AND PRACTICE GUIDELINES

**Child & Adolescent Mental Health Division
State of Hawaii Department of Health
72-HOUR SENTINEL EVENT REPORT**

Under CAMHD guidelines, a sentinel event is an occurrence involving serious physical and/or psychological harm or the risk thereof. A separate form is required for each singular event within 72 hours of the event occurrence. A 24-hour verbal report is also required to the case Mental Health Care Coordinator (MHCC) as well as to the CAMHD Sentinel Events Specialist at 733-9356.

Fax to: Sentinel Events Specialist at 733-9357 and fax to Family Guidance Center (FGC) MHCC at the appropriate FGC fax number. Pages 1 and 2 to be completed by staff witnesses involved.

Agency: _____ Program Name: _____ Provider ID#: _____
Street Address (residential facilities only): _____ Phone: _____

Island: _____ Reported By: _____ Date Reported: _____
Level of Service (check one): Hospital-Based Residential Intensive In-Home
 Multi-Systemic Therapy Therapeutic Foster Home
 Community Based Residential Therapeutic Group Home
 Community Based Residential-High Risk Crisis Residential
 Other: _____

MHCC: _____ Family Guidance Center: _____
Youth's Last Name: _____ Youth's First Name: _____
CAMHD CR#: _____ DOB: _____ Event Date: _____ Time: _____ am/pm

- Check here if event occurred when youth was not under direct care of program or staff (e.g., family outing, in school, etc.)
- MHCC Notified of Event Personal Notification of Parent or Legal Guardian

DESCRIPTION OF EVENT

A. Describe the location and scene (what activity youth(s) engaged in):

B. Summarize what occurred (attach additional sheet, if necessary)

INTERAGENCY PERFORMANCE STANDARDS AND PRACTICE GUIDELINES

C.	<i>Precipitating Factors/Antecedents (What happened prior to this event?):</i>
D.	<i>Names/titles of participants engaged in this event (submit separate report for other CAMHD youth involved):</i>
E.	<i>Any type of follow-up planned for staff or youth witnesses affected by event:</i>
F.	<i>How did event end (status of the youth/staff):</i>

EVENT CODES

CLIENT CR#: _____

G. Check all that apply (* indicates reporting required only for CAMHD out-of-home placements):

CHILD EVENTS

Person Directed – Youth is the perpetrator

- 1 * Sexually Inappropriate Behavior – consensual, while in CAMHD out-of-home placement
- 2 Sexually Inappropriate Behavior – non-consensual
- 3 Physical Assault I
- 4 Physical Assault II – homicidal intent or potentially fatal
- 5 Homicide
- 6 Sexual Assault I
- 7 Sexual Assault II – penetration through coercion or threat of force
- 8 NOS/Other:

Intentional Self-Inflicted Injury

- 16 Refusal of Life Preserving Medical Treatment
- 17 * Medication Refusal – only report 2nd consecutive refusals
- 18 Suicidal Ideation
- 19 Suicidal Threat – verbal or gestural
- 20 Non-Lethal Injury – minor attention needed
- 21 Non-Lethal Injury – medical attention needed
- 22 Potentially Lethal Injury or Hospitalization
- 23 Suicide
- 24 NOS/Other: _____

INTERAGENCY PERFORMANCE STANDARDS AND PRACTICE GUIDELINES

<p>H. <i>Additional post event comments:</i></p>		
<p>I. <i>Root causes hypothesized (Intrinsic to youth? External – environmental, staff, etc.):</i></p>		
<p>J. <i>Could this event have been avoided? How?</i></p>		
<p>K. <i>Specific changes planned or implemented regarding the youth's treatment plan, staff, program, physical structure, operations, etc. to reduce the probability of reoccurrence (include results of both debriefing sessions). Check all that apply and provide additional written explanation below:</i></p> <table style="width:100%; border:none;"> <tr> <td style="width:50%; vertical-align: top;"> <p>01 <input type="checkbox"/> Repeat Occurrence – Heighten Monitoring</p> <p>02 <input type="checkbox"/> Multiple Repeat Occurrence – Address in Treatment Plan</p> <p>03 <input type="checkbox"/> 1:1 Monitoring by Staff, duration: _____</p> <p>04 <input type="checkbox"/> Therapist Notified</p> <p>05 <input type="checkbox"/> Schedule Treatment Team Meeting</p> <p>06 <input type="checkbox"/> Assessment Scheduled</p> <p>07 <input type="checkbox"/> Room Change</p> <p>08 <input type="checkbox"/> Detained at Correctional Facility</p> <p>09 <input type="checkbox"/> Probation Officer Notified</p> </td> <td style="width:50%; vertical-align: top;"> <p>010 <input type="checkbox"/> Appointment with Primary Care Physician</p> <p>011 <input type="checkbox"/> Appointment with Psychiatrist</p> <p>012 <input type="checkbox"/> Consult with Doctor Regarding Medication</p> <p>013 <input type="checkbox"/> Consult Program RN</p> <p>014 <input type="checkbox"/> Medical Attention Provided</p> <p>015 <input type="checkbox"/> Admin Review of Policy and Procedures</p> <p>016 <input type="checkbox"/> Programmatic Changes Made</p> <p>017 <input type="checkbox"/> Staff Training Scheduled</p> <p>018 <input type="checkbox"/> Police Report Made</p> <p>019 <input type="checkbox"/> CPS Report Made</p> </td> </tr> </table> <p>Narrative:</p>	<p>01 <input type="checkbox"/> Repeat Occurrence – Heighten Monitoring</p> <p>02 <input type="checkbox"/> Multiple Repeat Occurrence – Address in Treatment Plan</p> <p>03 <input type="checkbox"/> 1:1 Monitoring by Staff, duration: _____</p> <p>04 <input type="checkbox"/> Therapist Notified</p> <p>05 <input type="checkbox"/> Schedule Treatment Team Meeting</p> <p>06 <input type="checkbox"/> Assessment Scheduled</p> <p>07 <input type="checkbox"/> Room Change</p> <p>08 <input type="checkbox"/> Detained at Correctional Facility</p> <p>09 <input type="checkbox"/> Probation Officer Notified</p>	<p>010 <input type="checkbox"/> Appointment with Primary Care Physician</p> <p>011 <input type="checkbox"/> Appointment with Psychiatrist</p> <p>012 <input type="checkbox"/> Consult with Doctor Regarding Medication</p> <p>013 <input type="checkbox"/> Consult Program RN</p> <p>014 <input type="checkbox"/> Medical Attention Provided</p> <p>015 <input type="checkbox"/> Admin Review of Policy and Procedures</p> <p>016 <input type="checkbox"/> Programmatic Changes Made</p> <p>017 <input type="checkbox"/> Staff Training Scheduled</p> <p>018 <input type="checkbox"/> Police Report Made</p> <p>019 <input type="checkbox"/> CPS Report Made</p>
<p>01 <input type="checkbox"/> Repeat Occurrence – Heighten Monitoring</p> <p>02 <input type="checkbox"/> Multiple Repeat Occurrence – Address in Treatment Plan</p> <p>03 <input type="checkbox"/> 1:1 Monitoring by Staff, duration: _____</p> <p>04 <input type="checkbox"/> Therapist Notified</p> <p>05 <input type="checkbox"/> Schedule Treatment Team Meeting</p> <p>06 <input type="checkbox"/> Assessment Scheduled</p> <p>07 <input type="checkbox"/> Room Change</p> <p>08 <input type="checkbox"/> Detained at Correctional Facility</p> <p>09 <input type="checkbox"/> Probation Officer Notified</p>	<p>010 <input type="checkbox"/> Appointment with Primary Care Physician</p> <p>011 <input type="checkbox"/> Appointment with Psychiatrist</p> <p>012 <input type="checkbox"/> Consult with Doctor Regarding Medication</p> <p>013 <input type="checkbox"/> Consult Program RN</p> <p>014 <input type="checkbox"/> Medical Attention Provided</p> <p>015 <input type="checkbox"/> Admin Review of Policy and Procedures</p> <p>016 <input type="checkbox"/> Programmatic Changes Made</p> <p>017 <input type="checkbox"/> Staff Training Scheduled</p> <p>018 <input type="checkbox"/> Police Report Made</p> <p>019 <input type="checkbox"/> CPS Report Made</p>	

<p>Clinical Director Print Name: _____</p> <p><i>*If designee, indicate position and discipline title. Phone: _____</i></p> <p>Signature: _____</p>	<p>Date: _____</p> <p><i>e-mail address: _____</i></p>
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