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Family Functioning and Predictors of Runaway Behavior Among At-Risk Youth

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Abstract

Purpose—Adolescent runaway behavior is associated with a host of negative outcomes in young adulthood. Therefore, it is important to understand the factors that predict running away in youth.

Methods—Longitudinal data from 111 at-risk families were used to identify proximal predictors of runaway behavior over a 12-week period. On average, youth were 14.96 years old, and 45% were female. Ten percent of youth ran away during the 12-week follow-up period.

Results—In bivariate analyses, running away was predicted by poorer youth- and parent-rated family functioning, past runaway behavior, and other problem behaviors (e.g., substance use, delinquency), but not poorer perceived academic functioning. Results of a hierarchical logistic regression revealed a relationship between youth-rated family functioning and runaway behavior. However, this effect became non-significant after accounting for past runaway behavior and other problem behaviors, both of which remained significant predictors in the multivariable model.

Conclusion—These findings suggest that youth who run away may be engaged in a more pervasive pattern of problematic behavior, and that screening and prevention programs need to address the cycle of adolescent defiant behavior associated with running away. Recommendations for clinical practice with this at-risk population are discussed.

Keywords

runaway; family relationships; delinquency; adolescent

Approximately 6–7% of youth run away from home each year (Polley Sanchez, Waller, & Greene, 2006; Chen, Thrane, & Adams, 2012) – a number that translates into more than 1.5 million children and adolescents (Hammar, Finkelhor, & Sedlak, 2002). Although most

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Compliance with Ethical Standards

Informed consent: Informed consent was obtained from all parents who participated in this study and assent was obtained from all youth participants included in the study.

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

youth who run away are gone for less than a week and travel no further than 50 miles from home (Hammar et al., 2002), there is evidence that running away is associated with a number of negative psychosocial outcomes. Youth who run away have high rates of substance use, including marijuana and alcohol use (Thompson, Zittel-Palamara, & Maccio, 2004; Chen, Tyler, Whitbeck, & Hoyt, 2004; Johnson, Whitbeck, & Hoyt, 2005; Stein, Milbrun, Zane, & Borus, 2009). Mental health problems are prevalent, including depression (Thompson et al., 2004), trauma-related symptoms and disorders (Tyler, Cauce, & Whitbeck, 2004; Whitbeck, Hoyt, Johnson, & Chen, 2007), and self-harm behavior (Moskowitz, Stein, & Lightfoot, 2013). Suicidality is common as well, with estimated rates of suicidal ideation ranging from 31 to 54% (Yoder, Hoyt, & Whitbeck, 1998; Thompson, Maguin, & Pollio, 2003), and rates of suicide attempts ranging from 26 to 63% (Yoder et al., 1998; Hoyt & Whitbeck, 1999; Moskowitz et al., 2013). Runaways often become involved in delinquent behavior while away from home, including dealing drugs, stealing, and committing physical assaults (Whitbeck, Hoyt, & Ackley, 1997a; Crawford, Whitbeck, & Hoyt, 2009; Stein et al., 2009). They are also at risk for physical and sexual victimization (Terrell, 1997; Whitbeck et al., 1997a; Whitbeck et al., 2007; Kim, Tajima, Herrenkohl, & Huang, 2009).

Of note, these negative outcomes tend to persist into adulthood. Tucker and colleagues (2011) found that youth who ran away during grades 10 or 11 had higher levels of drug dependence and depressive symptoms at age 21, even after controlling for initial substance use, depressive symptoms and other antecedents of running away. Similarly, there is evidence that runaway behavior at age 14–15 is associated with greater cigarette, marijuana, and illicit substance use four years later, after accounting for other delinquency behavior in adolescence (Windle, 1989). Finally, an analysis of nationally representative data found that running away as a youth increased the risk of suicidal ideation and suicide attempts, drug use, and contracting a sexually transmitted disease as an adult (Benoit-Bryan, 2011), controlling for a number of demographic characteristics, prior foster care involvement, and abuse history. This latter study also found that former runaways had lower personal income, lower educational achievement, and were more dependent on public assistance (Benoit-Bryan, 2011). Given the host of negative psychosocial outcomes associated with runaway behavior, it is critical to better understand the factors that may precipitate running away.

Predictors of Runaway Behavior

Studies have examined a range of variables in association with running away, including demographic characteristics, family functioning, academic orientation, and delinquency.

Demographic factors

A few studies have found an association between age and runaway behavior. For instance, an analysis of the National Longitudinal Study of Adolescent to Adult Health (Add Health) data demonstrated that adolescents over age 15 were more likely to run away than their younger peers (Polley Sanchez et al, 2006), and there is evidence that runaway youth who use shelter services tend to be older than the general U.S. adolescent population (Thompson et al., 2003). The support for other demographic factors has been mixed. Regarding gender,

some studies have identified a greater risk among females (Thompson et al., 2003; Thompson & Pollio, 2006; Polley Sanchez et al., 2006; Tyler & Bersani, 2008; Haynie, Petts, Maimon, & Piquero, 2009), whereas others have found no significant gender effect (deMan, 2000; Yoder et al., 2001). Evidence for the effect of family composition has also been mixed: whereas some studies have found that youth from families without an intact nuclear family are at greater risk for running away (deMan, Dolan, Pelletier, & Reid, 2003; Polley Sanchez et al., 2006; Thompson & Pollio, 2006; Meltzer, Ford, Bebbington, & Vostanis, 2012), others have not replicated this effect (deMan, 2000).

Family functioning

The potential role of family functioning has received significant attention, particularly given the high rates of neglect and physical, sexual, and psychological abuse reported by runaways (Whitbeck, Hoyt, & Ackley, 1997a; Thompson et al., 2003; Chen, Tyler, Whitbeck, & Hoyt, 2004; Martinez, 2006; Thompson, Cochran, & Barcyzyk, 2012). Thompson and colleagues (2004) found that 85% of runaway youth in a shelter reported problems with their relationship with their parents/guardians (henceforth referred to as “parents”), and indeed, runaways cite abuse as a primary reason for leaving home (Terrell, 1997; Thompson & Pollio, 2006; Kim et al., 2009; Meltzer et al., 2012). Runaway youth also tend to report poor family communication (Thompson, Maccio, Desselle, & Zittel-Palamara, 2007) and that they perceive their parents as uncaring (Terrell, 1997). Problematic parental relationships seem to be related to an increased risk of running away (McGarvey, 2010; Thompson & Pollio, 2006), and longitudinal studies have demonstrated the relationship between lack of parental support (Tucker et al., 2011) and low parental monitoring (Tyler & Bersani, 2008) with running away. In contrast, more positive family functioning may serve as a protective factor, as there is evidence that youth who endorse a sense of security and trust in their parents are less likely to run away (Thompson & Pillai, 2006).

Most studies of the relationship between family functioning and runaway behavior have focused on youth reports of family functioning. However, a limited number of studies have examined both parent and youth perceptions of family functioning and its relationship to runaway behavior. This research has found significant discrepancies between parent and youth ratings of family cohesion (Slesnick & Prestopnik, 2004), communication (Safyer, Thompson, Maccio, Zittel-Palamara, & Forehand, 2004), and positive affect (Safyer et al., 2004). In general, parents report better family functioning than youth, though more mixed results have been observed for family conflict (Slesnick & Prestopnik, 2004; Safyer et al., 2004). Whitbeck and colleagues (1997b) compared the ratings of parents and their runaway adolescents to parent and non-runaway adolescent pairs from single-parent and two-parent households. Although they found significant discrepancies between parent ratings and youth ratings for most measures regardless of youth runaway status, they also found evidence for poorer functioning in several domains for the parent-runaway pairs. More specifically, parents of runaway youth reported significantly less monitoring and greater parental rejection of the adolescent (e.g., placing blame on the adolescent, less care and trust for the adolescent), and runaway adolescents reported significantly less parental monitoring, warmth and supportiveness, and greater parental rejection than non-runaway adolescents from two-parent and single-parent households. Therefore, it appears that runaway youth and

their parents have discrepant views on their family functioning, although the extent to which parent vs. youth perceptions of family functioning actually influence runaway behavior is not well established.

School functioning

School performance and school engagement may also contribute to runaway behavior. Youth who run away report inconsistent attendance at school, including high rates of truancy, suspensions, expulsions, and dropping out (Safyer et al., 2004; Thompson et al., 2004; Tyler & Bersani, 2008), and these factors are associated with higher rates of runaway behavior (deMan, 2000; Thompson & Pollio, 2006). In one survey of homeless and runaway adolescents, more than 40% endorsed trouble in school as a reason for running away, and one-third cited poor grades (groups were not mutually exclusive) (Terrell, 1997). School disengagement (Tucker et al., 2011) and poor grades (Haynie et al., 2009) have also been associated with a greater likelihood of running away in longitudinal studies. In contrast, good school performance may serve as a protective factor (Chen et al., 2012). These results suggest that lack of academic engagement or a sense of belonging in the school environment contribute to runaway risk. However, the role of academic performance or engagement has not been consistently supported (deMan, 2000; Thompson & Pillai, 2006; Chen et al., 2012), leaving questions about the role of these factors.

Problem behaviors

Substance use is common among runaway youth (Thompson et al., 2003), with one survey of youth who were homeless due to runaway finding that 61% met lifetime criteria for a substance use disorder (Johnson et al., 2005). Rates of marijuana and alcohol use seem to be especially high (Thompson et al., 2004), and there is evidence that substance abuse increases the risk of runaway behavior (deMan, 2000; deMan et al., 2003; Thompson & Pillai, 2006; Tucker et al., 2011), including the likelihood of multiple runaway episodes (Thompson & Pollio, 2006).

There is also some evidence that youth who run away tend to participate in other problem behaviors (Haynie et al., 2009). The results of one longitudinal study found that youth involved in behaviors such as selling drugs, property crimes, and physical fights were more likely to run away (Tyler & Bersani, 2008), whereas other research has found an indirect effect of problem behavior on running away via associations with deviant peers (Chen et al., 2012). In addition, there is evidence of high rates of childhood onset conduct disorder among runaway youth (Chen, Thrane, Whitbeck Johnson, & Hoyt, 2007), implying that more serious patterns of delinquent behavior are connected to runaway behavior. Further, youth charged with a misdemeanor have also been shown to be at risk for multiple runaway episodes (Thompson & Pillai, 2006). To the extent that running away may represent a form of defiant or delinquent behavior, this association with other problem behaviors is perhaps unsurprising.

Research Gaps and Present Study

Although a fair amount of literature has examined the predictors of runaway behavior among youth, there have been certain methodological limitations. For instance, many studies have recruited youth who are residing in shelters, using shelter services, or who were considered homeless as a result of running away. Studies of this kind tend to be cross-sectional and use youths' retrospective reports to assess the variables of interest. In addition, few studies have examined the report of both youth *and* parents in predicting runaway behavior, despite some evidence that there is a discrepancy between parent and child perceptions of factors such as family functioning. Finally, the research has also been mixed regarding the effect of certain factors, such as gender or school functioning, and the effect of other variables (e.g., delinquency) has not been thoroughly examined.

Using data from a sample of adolescents and their parents who were referred to a parent-child mediation program for at-risk youth, the present study aims to address these limitations by prospectively examining predictors of running away, including both parent and youth ratings of family functioning, and focusing on the more proximal risk factors that predict imminent risk of running away. The first goal of the study was to investigate discrepancies between youth and parent reports of family functioning (e.g., cohesion, conflict, communication). We hypothesized that parents would report better family functioning than youth at baseline (Hypothesis 1).

The second goal of this study was to identify baseline predictors of runaway behavior during the 3-month follow-up period, with a focus on demographic characteristics, school functioning, problem behaviors, and family functioning (both parent- and youth-reported). We hypothesized that poor grades, greater school disengagement, and involvement in other problem behaviors such as substance use and delinquency would be associated with a greater likelihood of running away. It was also expected that running away would be associated with poorer family functioning, as rated by both the parent and the youth; however, there was not enough prior research to guide an a priori hypothesis about whether parent- or youth-reported family functioning might be more strongly associated with runaway status (Hypothesis 2). In addition to separately examining the reports of parents and youth, we also aimed to determine if the discrepancy between youth- and parent-reported family functioning would be predictive of runaway behavior.

Methods

Participants

Participants included families enrolled in a randomized controlled trial examining a parent-child mediation program provided by a non-profit community-based organization in Los Angeles County, California (Tucker, Edelen, & Huang, 2016). The non-profit organization serves a predominantly Hispanic community in the Los Angeles area. Families were referred through a number of pathways, including self-referrals, school referrals, and referrals from local police or probation. Families were ineligible for the study if referred for severe conflicts, including those related to gang violence, weapons, arson, explicit sex activities,

domestic violence or child abuse, or threats of harm to self or others. Parents and youth completed surveys at baseline, 6 weeks, and 12 weeks.

One hundred and eleven families completed baseline surveys. The mean age of parents and youth in this subsample was 41.58 (SD = 7.50) and 14.96 (SD = 1.53), respectively. The majority of parents who completed surveys were female (91%) and Hispanic (72%). Forty-five percent of youth were female, and the majority was Hispanic (73%). Of these families, 86 (77%) completed the 6-week follow-up survey, and 97 (87%) completed the 12-week follow-up survey. For complete demographic data, see Table 1.

This study was approved by the local institutional review board. Parents provided consent for participation in this study, and youth provided assent. A Certificate of Confidentiality was obtained from the National Institute of Health to protect participant data.

Measures

Baseline and follow-up surveys assessed several domains, including family functioning, perceived academic functioning, and participation in problem behaviors such as substance use, delinquency and running away. Surveys were administered independently to parents and youth to ensure the privacy of participant responses. The parent and youth each received gift cards for participation in the surveys ($25 at baseline and 6-week follow-up, $50 at 12-week follow-up). Both English and Spanish versions of the parent survey were available. Although the youth survey was only available in English, this did not prevent any youth from being able to complete the survey.

Demographic information—Basic demographic information (e.g., age, race/ethnicity, level of education) was collected from both parents and youth. In addition, youth provided information about their household composition (i.e., which adults reside with the youth). This information was used to code a variable indicating whether the youth's nuclear family was intact (*yes* vs. *no*).

Family functioning—Both youth and parents completed three measures of family functioning. *Family cohesion* was assessed with a 6-item measure (Metzler, Biglan, Ary, & Li, 1998) adapted from the Cohesion subscale of the Family Environment Scale (Moos & Moos, 1994). Respondents were asked how much they agreed with each of six statements (e.g., "There is a feeling of togetherness in my family") on a 5-point scale, with responses ranging from 1 ("not at all") to 5 ("very much"). To score this scale, the items were averaged (youth α = .92, parent α = .86). Higher scores reflect better family cohesion. *Family conflict* was measured with a 5-item measure adapted from the TCU Family Conflict Scale (Simpson & Mcbride, 1992; TCU Institute of Behavioral Research, 2010). This measure assesses the ways that youth and parents interact with each other. Respondents indicated how often each behavior (e.g., "Yelled at each other") occurred on a 5-point scale, with response options ranging from 1 ("never") to 5 ("almost always"). Item responses were averaged (youth α = .88, parent α = .85), with higher scores representing more family conflict. Both parents and youth completed this measure. Finally, *family communication* was measured with a 10-item scale assessing both Problem Communication (five items; e.g., "We yelled and screamed at each other") and Open Communication (five items; e.g., "We respected each others'

feelings") (McCubbin & Thompson, 1987). Responses were made on a 5-point scale, with response options ranging from 1 ("never") to 5 ("almost always"). To compute the total score, items were reverse scored as necessary and averaged (youth $\alpha = .89$, parent $\alpha = .85$), with higher scores reflecting better family communication.

There was substantial collinearity among the family functioning variables, with the absolute value of correlations ranging from $r = .62 – .84$ for the youth-rated measures, and ranging from $r = .59 – .65$ for the parent-rated measures. For this reason, and because the measures were conceptually similar, these measures were combined into two different family functioning composite scores – a youth-rated composite, and a parent-rated composite – by reverse scoring the family conflict scale and calculating the mean of the three scales. In addition, because few studies have examined the impact of the discrepancy between youth- and parent-reported family functioning, we also computed a discrepancy score to reflect the difference between the youth and parent family functioning composites.

Perceived academic functioning—Perceived academic functioning was operationalized with two variables: grades in school, and school engagement. Regarding grades, both parents and youth indicated what types of grades the youth earned over the past 30 days. Parent and youth responses were merged into a single dichotomous item indicating whether the youth mostly received grades worse than C. This variable was based primarily on the parents' report, but when parent report was missing, the youths' report was substituted.

To measure school engagement, youth completed three items adapted from the Add Health study (Harris et al., 2009) assessing the degree to which they feel integrated with their school (e.g., "I feel like I am a part of my school"), as well as a fourth item asking about the extent to which they like their school. Responses were made on a 5-point scale, with options ranging from 1 ("not at all") to 5 ("very much"). Items were averaged ($\alpha = .74$), and higher scores reflect more school engagement.

Problem behaviors—Both parents and youth reported on youth involvement in problem behaviors in the past 30 days, including both defiant behaviors and delinquency, and youth also reported on their substance use. Items measuring delinquency and defiant behaviors were adapted from Project ALERT (Tucker, Martinez, Ellickson, & Edelen, 2008) and the National Longitudinal Study of Adolescent to Adult Health (Bearman, Jones, & Udry, 1997). For the present analyses, youth responses were analyzed. Twelve items assessed youth engagement in defiant behaviors (e.g., being sent out of the classroom for causing trouble, lying to parents about the youth's whereabouts) and more serious delinquent behaviors (e.g., property damage, physical fights, getting in trouble with police). Responses were made on a 7-point scale, with options ranging from "0 days" to "20–30 days." Because there were few responses at the high end of the scale, responses on each item were dichotomized (*engaged in activity* vs. *did not engage*).

Youth substance use was assessed with items asking youth to identify how frequently they had used each of several substances during the past 30 days. Responses were made on a 6-point scale with options ranging from "0 times" to "7 or more times." Substances included

alcohol, marijuana, inhalants, over-the-counter and prescription medicines, and "any other illegal drug or pill." Responses were dichotomized (*no use* vs. *use*).

These dichotomized indices of defiant/delinquent behaviors and substance use were summed to create a variable representing the total number of problem behaviors the youth participated in over the past 30 days.

Runaway status—Youth responded to a question asking how many times the youth "Ran away from home for overnight or longer" during the previous 30 days, with responses ranging from "0 days" to "20–30 days." The dichotomized version of this item was used to classify youth runaway status at each survey administration. We used runaway status at baseline as a predictor variable.

To create our runaway outcome variable, we computed a variable representing whether a youth reported running away during either of the two follow-up survey intervals (6 and 12 weeks), dichotomized as runaway vs. non-runaway.

Data Analysis

Data were analyzed using SPSS 21. Descriptive statistics were calculated for all variables. To address the first aim of this study (investigating the relationship between youth and parent reports of family functioning), we conducted paired samples *t*-tests and Pearson correlations using the baseline family functioning data. To address the second aim of this study (identifying which baseline variables predicted runaway behavior during the follow-up period), we first conducted independent measures *t*-tests and chi square analyses (or Fisher's exact analyses, when assumptions of chi square were violated) to examine the bivariate relationship between demographic variables, family functioning, perceived academic functioning, and problem behaviors at baseline with runaway status at follow-up. Those variables that were significantly associated with runaway status at follow-up ($p < .05$) were then entered into a hierarchical logistic regression model, with runaway at follow-up as the outcome variable. Although formal evaluation of the mediation program (reported elsewhere) found no significant effects on family functioning or youth problem behaviors (*reference removed for blinding purposes*), intervention group was included as a covariate to ensure that the results of these exploratory analyses were not impacted by participation in the program. Odds ratios and 95% confidence intervals were calculated for each variable.

Results

Hypothesis 1: Parent- vs. Youth-Rated Family Functioning at Baseline

We hypothesized that parents would report better family functioning than youth at baseline. Pearson correlations revealed significant correlations between baseline parent and youth ratings of family cohesion ($r = .45$, $p < .01$), conflict ($r = .48$, $p < .01$), and communication ($r = .42$, $p < .01$) at baseline. A series of repeated-measures t-tests indicated that there was a significant discrepancy between parent- and youth-rated family communication, such that youth reported worse communication ($M_{discrepancy} = 0.33$, SD = 0.92; $t(108) = 3.81$, $p < .01$, Cohen's $d = 0.37$); however, there were no significant differences in parent- and youth-rated family cohesion ($M_{discrepancy} = 0.06$, SD = 1.03; $t(107) = 0.56$, $p = .57$, Cohen's $d = 0.06$)

and conflict ($M_{discrepancy}$ = −0.04, SD = 0.86; $t(108)$ = −0.53, p = .60, Cohen's d = 0.05). Similarly, there was no significant difference between the parent and youth composite scores ($M_{discrepancy}$ = 0.14, SD = 0.78; $t(108)$ = 1.86, p = .07, Cohen's d = 0.18).

Hypothesis 2: Predictors of Runaway Status

We hypothesized that poor grades, greater school disengagement, and involvement in other problem behaviors would be associated with a greater likelihood of running away. We also hypothesized that poorer youth- and family-reported family functioning would be associated with running away. An exploratory aim was to determine if the discrepancy between youth and parent reports of family functioning predicted running away.

Data on runaway behavior during the follow-up period was available for N = 82 youth, 18.3% of whom had run away (n = 15).. Bivariate analyses revealed that running away at baseline, total number of problem behaviors, and poorer parent- and youth-rated family functioning (composite scores) were significantly associated with runaway status during the follow-up interval. In contrast, there was no significant effect observed for any of the demographic variables or school-related variables. Similarly, the family functioning discrepancy score was not associated with runaway during the follow-up interval (see Table 2).

Complete data on the significant predictor, covariate (intervention group), and outcome variables were available for 72 participants. Ten percent (n = 11) had run away during the follow-up period. The four significant predictors were entered into a multiple logistic regression model in three steps: (1) youth and parent rated family functioning, (2) problem behaviors, and (3) runaway behavior at baseline. Intervention group was included in Step 1 as a covariate. For each step, variance inflation factors (VIF) were within acceptable ranges (1.00 to 1.50), indicating that multicollinearity was not a substantial concern. In Step 1, youth-rated family functioning was a significant predictor of runaway at follow-up, such that youth reporting better family functioning were at lower risk for running away. In contrast, parent-rated family functioning was not a significant predictor. In Step 2, the addition of the problem behavior variable rendered the effect of youth-rated family functioning non-significant; however, participation in more problem behaviors at baseline was associated with a 1.38 times greater risk of running away. Finally, in Step 3, runaway behavior at baseline was added. The effect of total problem behaviors remained significant, and the magnitude of this effect remained similar (OR = 1.36). In addition, runaway behavior at baseline emerged as a particularly strong predictor of runaway behavior during the follow-up behavior, as youth who ran away at baseline were nearly 11 times more likely to run away during the follow-up period. However, it is important to note the large confidence interval for this estimate, which is likely the result of the small sample and small proportion of runaway youth.

Discussion

Youth who run away from home experience a host of negative outcomes. For this reason, it is critical to identify those youth who may be at increased risk for running away. A better understanding of the risk factors for runaway behavior has the potential to guide prevention

efforts and more deliberately target the needs of at-risk youth. The present study examined the predictors of runaway behavior among at-risk youth participating in a parent-youth mediation program.

Because both youth and parents participated in this study, we were able to examine the relationship between youth and parent reports of family functioning. In the full sample, parent and youth responses on these measures were correlated, although parents reported significantly better family communication than youth. This is somewhat different from prior research that has found significant discrepancies in youth and parent ratings across a broader range of domains including not only communication (Safyer et al., 2004), but also positive affect and cohesion (Safyer et al., 2004; Slesnick & Prestopnik, 2004). Interestingly, when examining the bivariate relationships, parent-rated and youth-rated family functioning were significantly associated with runaway behavior. However, the score reflecting the discrepancy between parent and youth ratings of family functioning were not associated with runaway behavior, suggesting that the concordance of parent and youth ratings is less important than absolute perceptions of family functioning.

The multivariate model revealed that the primary predictors of runaway behavior during the follow-up period were participation in problem behaviors and running away in the month prior to the baseline survey. Therefore, it appears that running away may be part of a larger pattern of defiant and delinquent behavior, and that youth who have a history of running away are more likely to continue engaging in this behavior. Alternatively, it is possible that running away is more of a defensive than defiant act on the part of youth, but that those youth who run away are also engaged in a broader pattern of problematic behaviors. Interestingly, neither parent- nor youth-rated family functioning were significant predictors of runaway behavior once problem behaviors were accounted for, suggesting that evaluating family dynamics alone may not identify youth at highest risk for running away.

These findings are informative in the context of identifying youth who are at risk to run away, and suggest the importance of screening for other problem behaviors and especially past runaway episodes. In addition, the finding that youth who have run away at least once are at risk for future runaway episodes may have particularly important implications, as youth with multiple runaway episodes may be at increased risk for dropping out of high school (Aratani & Cooper, 2015) and illicit drug use as young adults (Windle, 1989). In the present study, we were unable to determine if youth classified as “non-runaways” had a history of running away that predated the baseline survey time frame (i.e., in the past 30 days), or if youth classified as “runaways” had a prior history of running away. Therefore, it will be important for future research to examine the initiation of runaway behavior, as an understanding of the factors that predict the first episode of running away may inform prevention efforts that can stop this harmful cycle from beginning.

In some ways, the results of this study differ from previous research on runaway youth. For instance, school-related factors were not associated with running away in this sample. Moreover, it was unexpected that the effect of family functioning became non-significant after adjusting for other risk factors, particularly given that family functioning has been consistently supported as a correlate of runaway behavior (e.g., McGarvey, 2010; Terrell,

1997; Thompson & Pollio, 2006; Tucker et al., 2011; Tyler & Bersani, 2008). However, there are a number of factors that may account for this discrepancy. First, this study examines runaway behavior and its correlates over a somewhat different time frame than other studies. For instance, some research has looked at youth behavior and psychosocial functioning over a longer period of time leading up to the runaway event (e.g., alcohol or drug use in the past year). In contrast, we examined predictors of running away within a shorter timeframe (i.e., the next 12 weeks), and used psychosocial and behavioral indicators that occurred in the 30 days prior to the baseline survey. Therefore, it may be that there is a temporal pattern to the relationship between certain variables and runaway behavior, and that these findings advance our understanding of the proximal predictors of runaway behavior.

It is also likely that family functioning is a variable that contributes to many of the domains measured in this study, including school performance, school engagement, and participation in defiant or delinquent behaviors. For instance, it may be that youth from families with high levels of conflict or ineffective supervision and communication are more likely to act out, associate with negative peers, or cope using drugs or alcohol (see, e.g., Kim, Hetherington, & Reiss, 1999). In turn, these more behaviors may be more proximal indicators that a youth is in crisis and at increased risk for running away. Therefore, it would be interesting for a future study with a longer longitudinal time frame to examine the more complex interrelationships among these factors.

This study has certain limitations. First, these analyses are based on a small sample, such that there were relatively few runaway cases resulting in limited statistical power to identify predictors. Relatedly, the small sample and low proportion of runaway youth likely resulted in the large confidence interval observed for certain predictors in the multivariate model; therefore, these multivariate results should be interpreted with some degree of caution. Similarly, given these limitations to the data, our analyses are likely underpowered, which may have reduced our ability to detect significant effects for certain variables. However, we took certain steps to ensure the appropriateness of a logistic regression model for these data, including limiting the number of predictors to those that were significantly associated with runaway status in bivariate relationships and limiting collinearity among predictors (Courvoisier, Combescure, Agoritsas, Gayet-Ageron, & Perneger, 2011).

Second, because of the nature of the surveys, it was not possible to determine if there had been multiple runaway episodes at each time point. In addition, the follow-up surveys were administered at 6 and 12 weeks; however, the question used to classify runaway behavior asks about any running away that occurred in the past 30 days. This means that there is approximately a two-week discrepancy between the time frame of the follow-up period (six weeks) and that of the survey question (30 days). Therefore, we may not have captured youth who ran away during the first two weeks after each survey, and the group of 11 youth who were classified as runaways at follow-up may represent a conservative estimate of the true number of youth who ran away during the study time period. Third, given the skewed distribution of certain variables (e.g., individual problem behaviors), they were converted to dichotomous or count variables. By recoding these variables, we lose some more nuanced information about the effects of these predictor variables (e.g., the impact of more frequent participation in problem behaviors rather than just more problem behaviors). With a larger

sample with greater variability on these measures, it would be interesting to examine the influence of these factors. Finally, the demographics of the present sample, particularly with regard to racial/ethnic composition, are likely different from the broader sample of at-risk youth; however, they are representative of the diverse urban region in which the study took place. Previous research has found regional differences in the characteristics of runaway youth using crisis services (Thompson et al., 2003), which suggests that there is value to understanding the patterns of behavior within different groups and geographical areas.

Implications for Clinical Practice

These findings also have potential implications for working with at-risk youth. First, it is important to note that the sample of youth included in this study was already identified as high-risk, which is why they were enrolled in a parent-child mediation program. Therefore, these results will most closely generalize to clinical practice with high-risk youth.

We identified some interesting patterns related to parent vs. youth ratings of family functioning. First, we found that youth reported significantly worse communication than their parents. Unfortunately, we did not have access to information that would enable us to determine if parent or child ratings were more accurate reflections of the family's communication style (e.g., provider ratings of communication). Therefore, it is difficult to know whether youth had overly pessimistic views of their family's communication, or if parents had an overly optimistic view. However, the results of our regression analysis suggest that youth ratings of family functioning are more predictive of runaway behavior than parent ratings. Although this effect became non-significant after accounting for problem behaviors, this result is still potentially informative for clinical practice. It may be that youth perceptions of family functioning, regardless of the accuracy of these views, are a more robust determinant of the youth's behavior. Therefore, in clinical practice, it may be important to assess youths' perceptions of family functioning to detect those youth who have a greater likelihood of engaging in risky behaviors like running away. In addition, in the context of family therapy, these results suggest the importance of identifying, exploring, and reconciling discrepancies between youth and parent perspectives on family functioning.

That said, it is also important to acknowledge that, after accounting for other problem behaviors, neither youth nor parent reports of family functioning were significant predictors of runaway behavior. Given the study limitations (namely sample size), as well as the proximal time frame of the study, this is not to say that family functioning does not contribute to runaway behavior. As indicated previously, it is likely that a pattern of negative family functioning exerts its influence over a much longer time frame. What these results do suggest is that measuring family functioning might not be the most effective way for clinicians to identify those youth who are on the brink of running away. Instead, a stronger behavioral indicator may be recent participation in a pattern of other problem behavior.

In addition, these findings contribute to our understanding of the factors associated with runaway behavior. This knowledge is essential not only for identifying youth who are at-risk for running away, but also for providing interventions. First, these results suggest that it is especially prudent to assess for and address patterns of problematic behavior, and particularly for past runaway episodes. These behaviors could be uncovered through a

clinical interview, but also through the administration of a structured assessment, such as the Youth Self-Report (YRS; Achenbach, 1991), the Global Assessment of Individual Needs (GAIN) Conduct Disorder Scale (Dennis, Titus, White, Unsicker, & Hodgkins, 2003). Regarding interventions, research suggests that youth displaying a pattern of problem behavior may benefit most from interventions that engage their families as well. Two empirically-supported options include the Strengthening Families Program (Kumpfer, Whiteside, Greene, & Allen, 2010) and Multisystemic Therapy (Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 2009).

Conclusion

This study advances our understanding of the proximal risk factors associated with runaway behavior in a high-risk sample of youth. Although these findings suggest some role for family functioning in runaway behavior, problem behaviors and prior episodes of running away emerged as the strongest predictors. In the future, it will be interesting to determine if this pattern of behavior is more typical of at-risk but home-based youth, or if this is a precursor to more serious runaway behavior and associated consequences.

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Table 1

Demographic Characteristics of Parents/Guardians and Youth

	Parent/ Guardian (N = 111)	**Youth (N = 111)**
Gender		
Male	9.0% (n = 10)	55.0% (n = 61)
Female	91.0% (n = 101)	45.0% (n =50)
Race		
Hispanic	72.4% (n = 76)	73.3% (n = 77)
Non-Hispanic African American	25.7% (n = 27)	23.8% (n = 25)
Non-Hispanic White	0% (n = 0)	1.0% (n = 1)
Asian/Other	1.9% (n = 2)	1.9% (n = 2)
Highest Level of Education		
Less than high school	39.1% (n = 43)	-
High school diploma	27.3% (n = 30)	-
Some college	20.0% (n = 22)	-
College degree or higher	13.6% (n = 15)	-
Current Grade		
6th	-	2.7% (n = 3)
7th	-	10.0% (n = 11)
8th	-	8.2% (n = 9)
9th	-	18.1% (n = 20)
10^{th}	-	29.1% (n = 32)
11^{th}	-	20.9% (n = 23)
12^{th}	-	10.9% (n = 12)

Note: Frequencies within categories may not add up to the total N = 111 due to missing data on each variable. Percentages reflect the proportion of respondents with complete data on each measure or question.

Table 2

Relationship between Baseline Study Variables and Runaway Status

Variable	Non-Runaways (N = 67) M(SD) or % (n)	Runaways (N = 15) M(SD) or % (n)	Effect Size[b]	
Demographic characteristics				
Youth age	14.76 (1.58)	15.40 (1.18)	0.46	
Youth gender				
Male	49.3% (33)	60.0% (9)	0.08	
Female	50.7% (34)	40.0% (6)		
Youth race[a]				
Hispanic	75.0% (48)	64.3% (9)	--	
Non-Hispanic African American	23.4% (15)	28.6% (4)		
Non-Hispanic White	1.6% (1)	0% (0)		
Asian/Other	0% (0)	7.1% (1)		
Nuclear family intact	35.8% (24)	40.0% (6)	0.03	
School functioning				
Grades of C or worse	64.2% (43)	86.7% (13)	0.19	
School attachment	3.19 (0.95)	2.90 (0.92)	0.31	
Total problem behaviors	3.48 (2.75)	6.38 (1.71)	1.27	**
Runaway at baseline	10.6% (7)	50.0% (7)	0.39	**
Family functioning				
Youth-rated functioning	3.43 (0.90)	2.70 (0.76)	0.88	**
Parent-rated functioning	3.54 (0.64)	3.16 (0.67)	0.58	*
Family functioning discrepancy	0.08 (0.83)	0.46 (0.85)	0.46	

[a] Analysis violated assumptions of chi square, due to multiple cells with expected value <5

[b] Reported effect sizes are Cohen's d for continuous variables, and the phi coefficient for categorical variables

* $p < .05$,

** $p < .01$

Table 3

Hierarchical Logistic Regression Predicting Runaway Status

	Step 1			Step 2			Step 3		
	B	**S.E.**	**OR (95% CI)**	**B**	**S.E.**	**OR (95% CI)**	**B**	**S.E.**	**OR (95% CI)**
Constant	1.91	1.91	6.75	−0.29	2.35	0.75	−0.04	2.66	0.96
Intervention group	0.43	0.68	1.53 (0.41–5.79)	0.38	0.72	1.46 (0.36–5.99)	0.11	0.79	1.11 (0.24–5.24)
Parent-rated family functioning	−0.34	0.57	0.71 (0.23–2.16)	−0.34	0.61	0.71 (0.21–2.38)	−0.92	0.73	0.40 (0.10–1.66)
Youth-rated family functioning	−0.84	0.41	0.43 (0.19–0.97) *	−0.61	0.45	0.54 (0.22–1.32)	−0.23	0.52	0.79 (0.29–2.20)
Problem behaviors				0.31	0.13	1.36 (1.05–1.76) *	0.31	0.15	1.36 (1.02–1.83) *
Runaway at baseline							2.37	0.96	10.72 (1.65–69.73) *

* $p < .05$