



# USING A PERSON-ORIENTED APPROACH TO EXAMINE THE SIX-YEAR EFFECTS OF THE FAMILY BEREAVEMENT PROGRAM

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## Introduction

Analyses examining the long-term impact of interventions typically use a variable-oriented approach which assumes that all individuals come from the same population, emphasizes the differences between individuals and seeks to capture the way in which the variables interrelate within the individual to influence behavior. An alternative approach is a person-oriented approach where the emphasis is on understanding the complex processes that characterize the individual. These approaches assume that patterns of variables, often summarized by typologies, contribute to behavioral outcomes via the dynamic role they play within the total functioning of the individual.

Using a person-oriented approach and Latent Class Analyses (LCA) as the method, this study examined whether a typology based on the baseline status of both youth and caregiver/family risk and protective factors predicts differential outcomes of the Family Bereavement Program (FBP), a preventive intervention program for bereaved youth on the adaptation status 11 months and six years after the intervention.

The caregiver/family risk and protective factors include positive parenting, caregiver depression, and negative life events. The youth risk and protective factors include active coping, coping efficacy, self-esteem, threat appraisals, adaptive control beliefs, and inhibition of emotional expression. Each variable has been associated with mental health problems of bereaved children in prior research.

An advantage of this type of approach is that the classes are identified through statistical model testing and the use of LCA has been found to be superior to the traditional cluster analyses in detecting latent taxonomy.

In this study, we applied LCAs to assign individuals to subcategories according to their relatively homogenous types of risk and protective factors prior to the FBP intervention. We then examined whether this class solution moderates program effects 11 months and six years after the end of the intervention.

## Methods

The Family Bereavement Program (FBP) is a theory-based prevention program designed to change child and family level risk and protective factors which research has implicated as being related to mental health outcomes of bereaved children and adolescents. The FBP is a three month psycho-educational program which includes a parenting program and a child coping program.

## Sample

- The sample included 244 children and adolescents from 156 families who participated in an intervention trial for parentally bereaved children. Families were randomly assigned to either the FBP intervention or a bibliotherapy comparison condition. The children and adolescents participated in a pre-intervention interview and follow-up interviews immediately post-intervention, 11 months later, and 6 years later.
- Ages 8-16 at Pretest / 14-22 at 6-year follow-up
- 67% Caucasian, 16% Hispanic, 7% African American, 3% Native American, 7% others
- Mean caregiver age at T1 = 42.16 (*sd* = 8.8; range=19-76)

- Median income at T1 = \$30,001-\$35,000
  - 67% illness, 20% accident, 13% homicide or suicide
- Table 1 shows sample statistics for the overall sample.

	Overall	Low risk	Moderate	High risk
N	244	49	156	39
Proportion(intervention)	.55	.59	.52	.64
Proportion(female)	.47	.41	.44	.64
Child age (at time 1)	11.39 (7-16)	12.02 (8-16)	11.28 (8-16)	11.05 (7-16)
Time since death (months)	9.77 (3-29)	9.51 (3-27)	9.39 (3-28)	11.63 (3-29)

## Measures

The following 10 indicators were used to determine latent risk class membership. See Sandler et al. (2003) for a detailed description of these measures.

- Self esteem – Harter Global self-esteem measure
- Coping efficacy – Developed by Prevention Research Center (PRC) to assess sense of coping efficacy
- Positive parenting – composite of Acceptance/Rejection and Discipline from CRPBI, a measure of monitoring and some observational measures, see Kwok et al. (2005) for a detailed description of this composite measure
- Active coping – composite of six subscales from Children’s Coping Strategies Checklist (CCSC).
- Unknown locus of control – Subscales from Multidimensional Measure of Children’s Perception of Control
- Caregiver depression – Beck’s Depression Inventory (BDI)
- Active inhibition – Developed by PRC to assess efforts by children and adolescent to actively inhibit an expression of their emotions.
- Baseline internalizing and externalizing problems – A composite of both Caregiver report on Achenbach’s CBCL and children/adolescent’s report on Achenbach’s externalizing subscale and two measures of internalizing, CDI/R-CMAS.
- Threat appraisals – Developed by PRC to assess appraisals of threat in response to two negative life events that occurred in previous 3 months.
- Negative life events – A combination of two measures of life events for children the Bereavement Related Events Questionnaire (BREQ) and the General Life Events Schedule for Children (GLESC).

## Outcome Measures

Four variables in two domains at the 11-month follow-up and 15 outcomes in four domains at the 6-year follow-up were used to evaluate risk as a moderator of intervention effects.

### 11-month follow-up measure:

**Internalizing Problems** – Caregiver report of CBCL-internalizing subscale (Achenbach 1991a), child report of Children’s Depression Inventory (CDI) and Children’s Manifest Anxiety Scale-Revised (R-CMAS; Reynolds & Richmond, 1978)

**Externalizing Problems** – Caregiver report of CBCL-externalizing subscale (Achenbach 1991a), child report of YSR-externalizing subscale (Achenbach 1991b).

### 6-year follow-up measures:

**Diagnosis of Mental or Substance Disorder** – Caregiver and youth reports of DISC-C or DISC-YA Shaffer & Fisher, 2003)

**Internalizing Problems and Externalizing Problems and Disorder** - Caregiver report of CBCL or YABCL-internalizing and externalizing subscales (2001, Achenbach 1997), child report of YSR or YASR-internalizing or externalizing subscale (2001, Achenbach 1997). Caregiver and youth reports of DISC-C or DISC-YA on any broadband externalizing disorder and any internalizing disorder. Teacher report of TRF -internalizing or externalizing subscale (Achenbach 2001).

**Self-esteem** - Rosenberg Self-Esteem scale (RSE, Rosenberg, 1965). Coatsworth Competence Scale – academic and peer relationship (ASU, prevention Research Center, 2006). Grade point average.

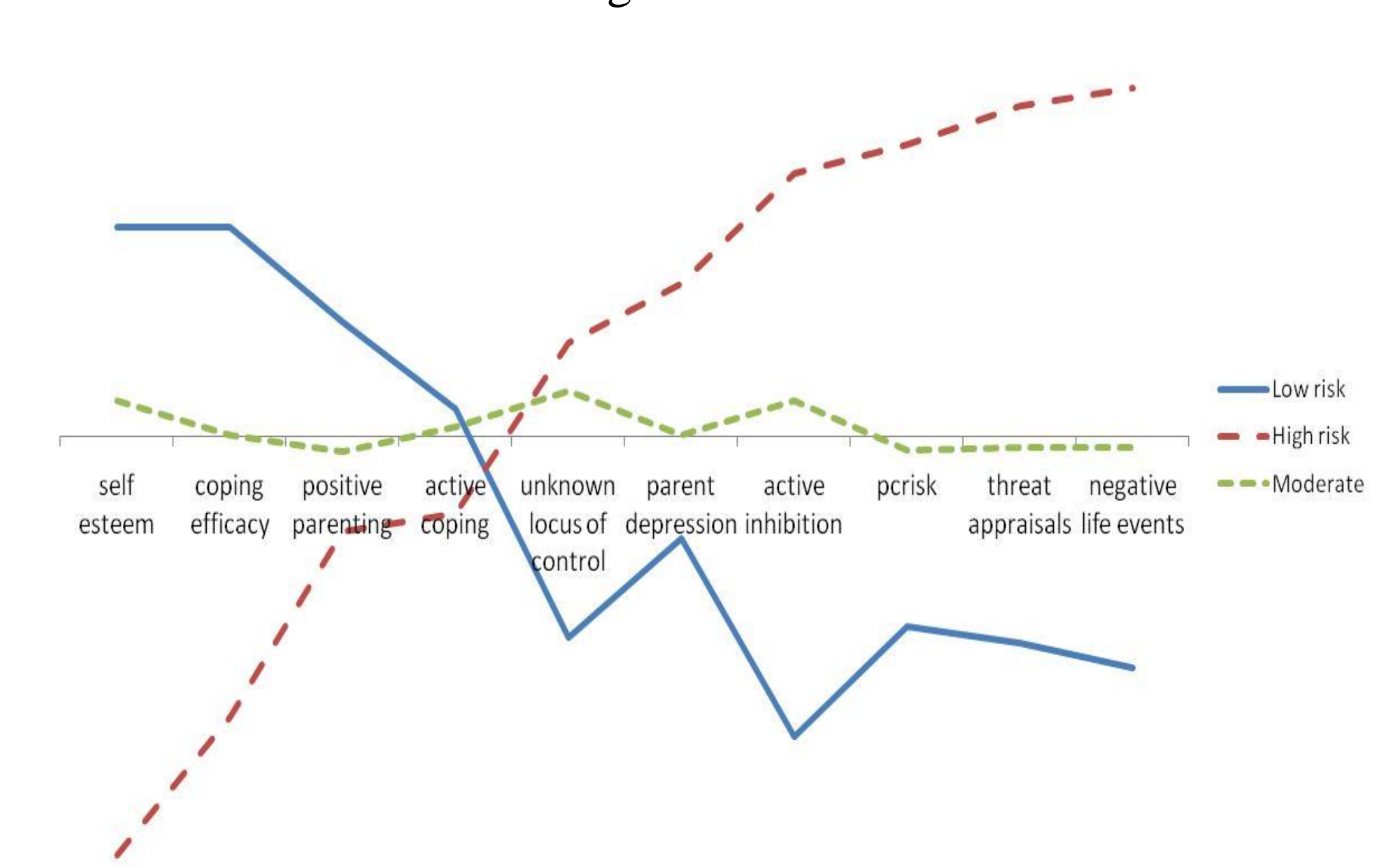
**Risky Behaviors** - Monitoring Future Scale – alcohol/marijuana use and polydrug use (Bachman & O’Malley, 1993). Caregiver and youth reports of DISC-C or DISC-YA substance use disorders. Number of sexual partners.

## Results

### Latent class models

Fit indices for the latent class model led to selection of a 3-class solution. Examination of the indicator means for the 3 classes suggested a “low risk” group, a “high risk” group, and a group with neither high nor low risk. For this solution, 49 individuals (20% of the sample) were classified in the “low risk” group, 39 individuals (16% of the sample) were classified in the “high risk” group, and the remaining 156 individuals (64% of the sample) were classified as neither high risk nor low risk. See Figure 1 for a graphical representation of the indicator means by class membership.

Figure 1



## Outcome analysis

Intervention group, risk class, and the intervention group X risk class interaction were used as predictors in mixed models with family as a clustering variable to evaluate for the 11-month and 6-year outcomes. Child age, child gender, time since death, and cause of death were included as covariates in all models.

**11-month outcomes.** Risk class membership moderated the intervention effect for one outcome: parent report of child internalizing. Specifically, the intervention attenuated the increased internalizing symptoms seen in the high risk individuals, as shown in Figure 2 by the large difference between the control and intervention groups in the high risk class.

Parent report of child internalizing - 11 months

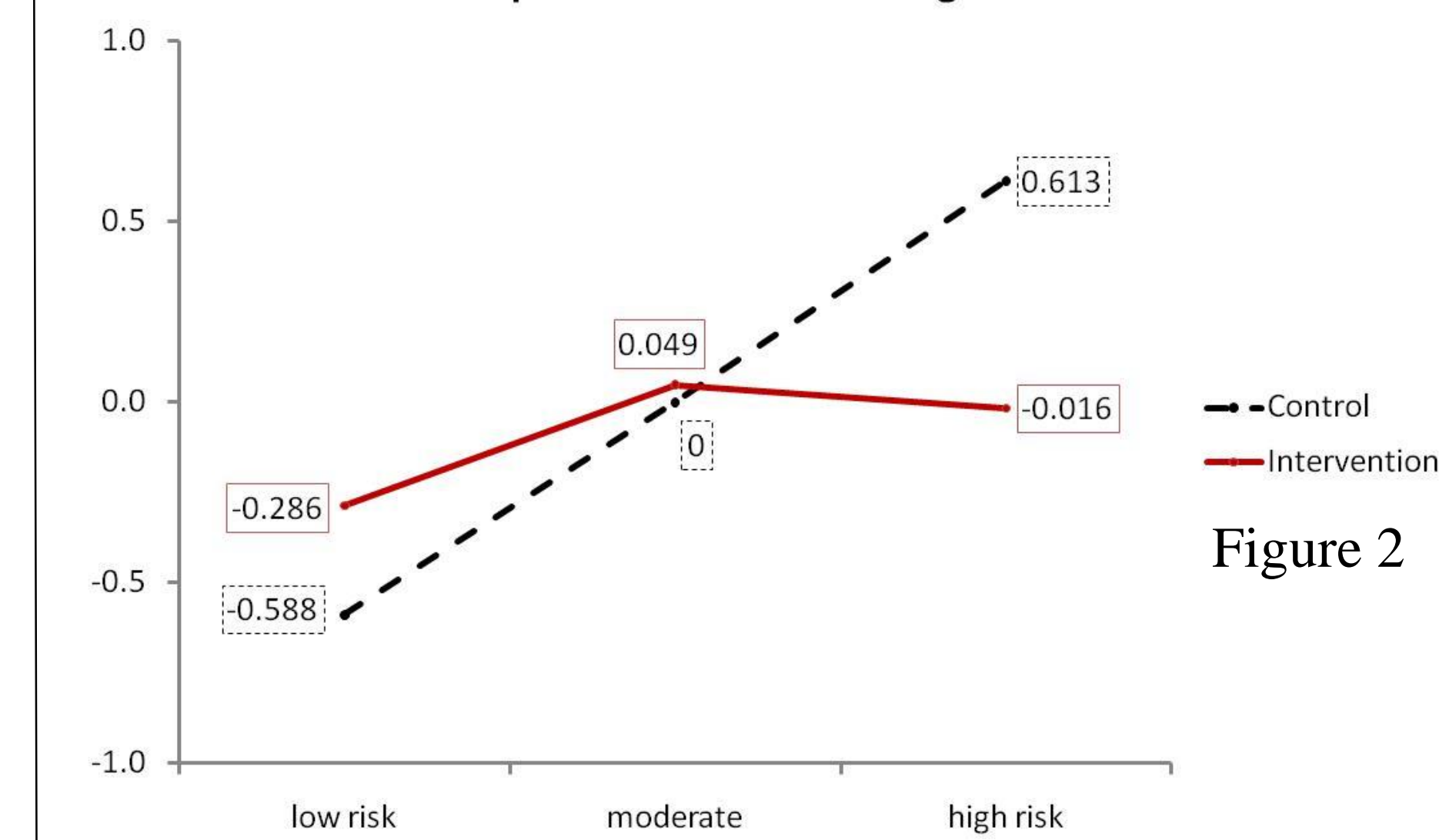


Figure 2

**6-year outcomes.** Risk class membership was marginally significant in moderating the effects of the intervention at six year follow-up in predicting externalizing diagnosis (see Figure 3).

Risk class membership also moderated the intervention effects on three risky behaviors measures: number of sexual partners marijuana and alcohol use, and DISC-C/DISC-YA substance use disorders. Opposite to the prediction, the individuals who participated in the FBP had higher scores on the these three risky behaviors variables than those in the control group for the high risk class. Figure 4 displays the findings for marijuana and alcohol use and Figure 5 illustrates the effect for number of sexual partners

Externalizing diagnosis - 6 years

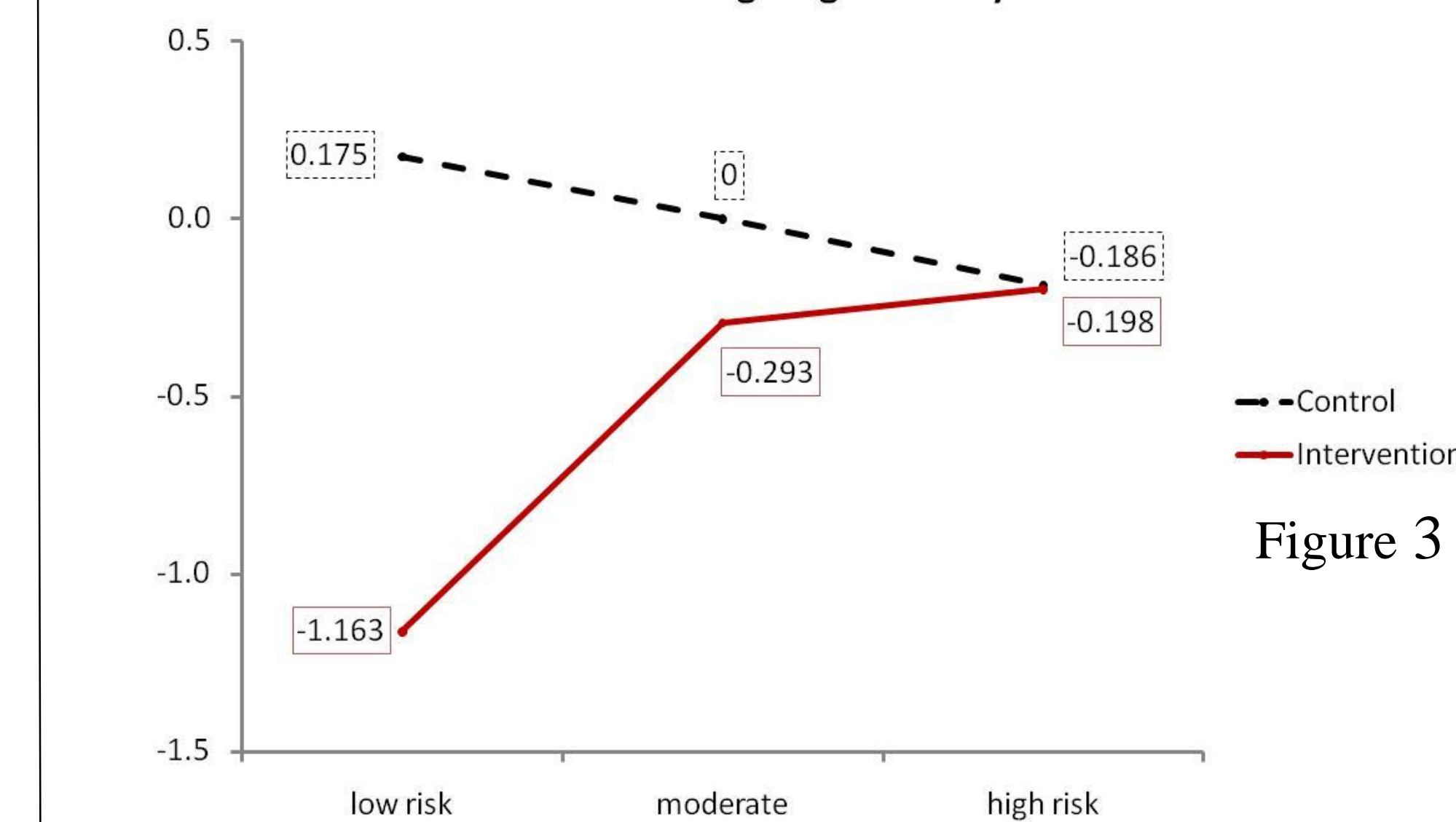


Figure 3

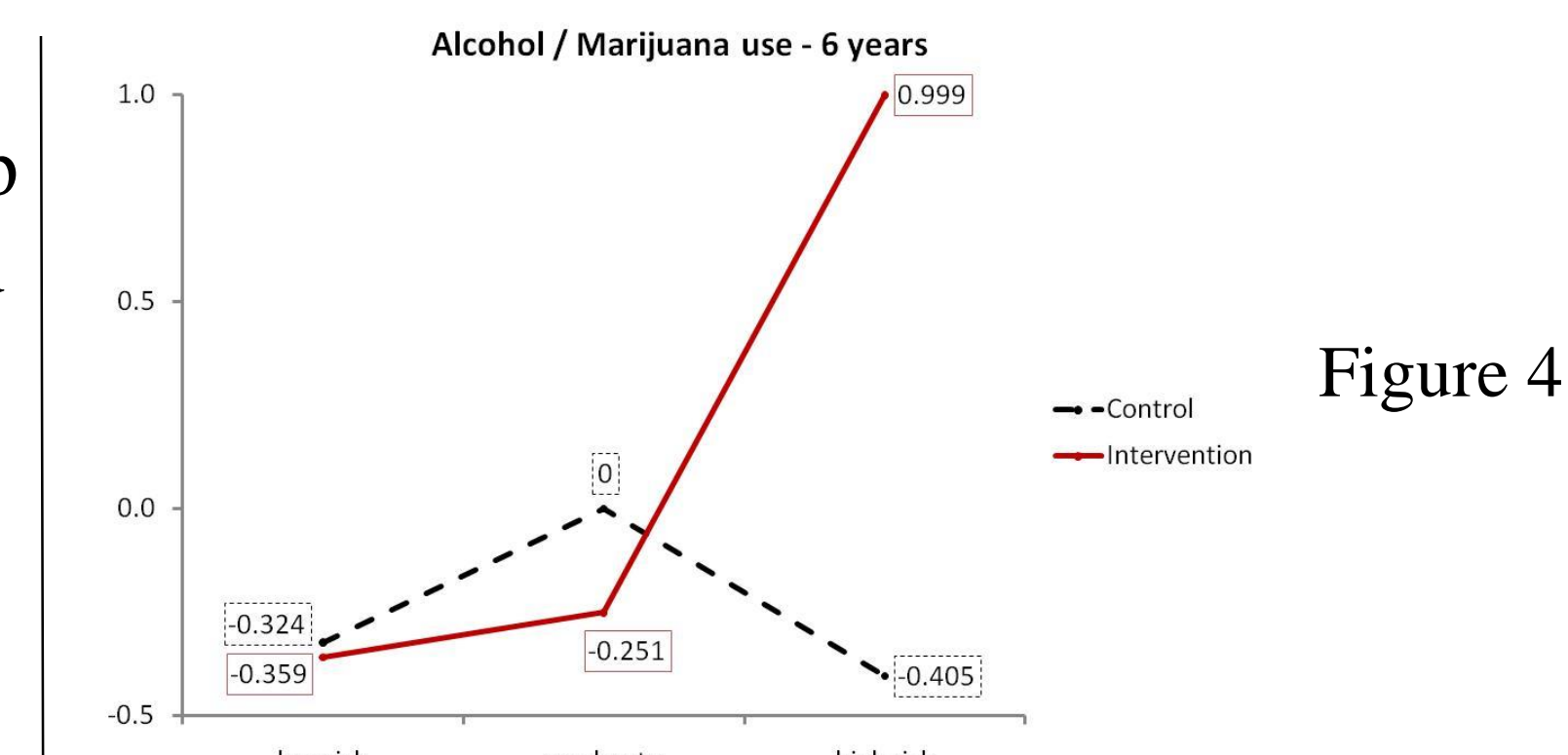


Figure 4

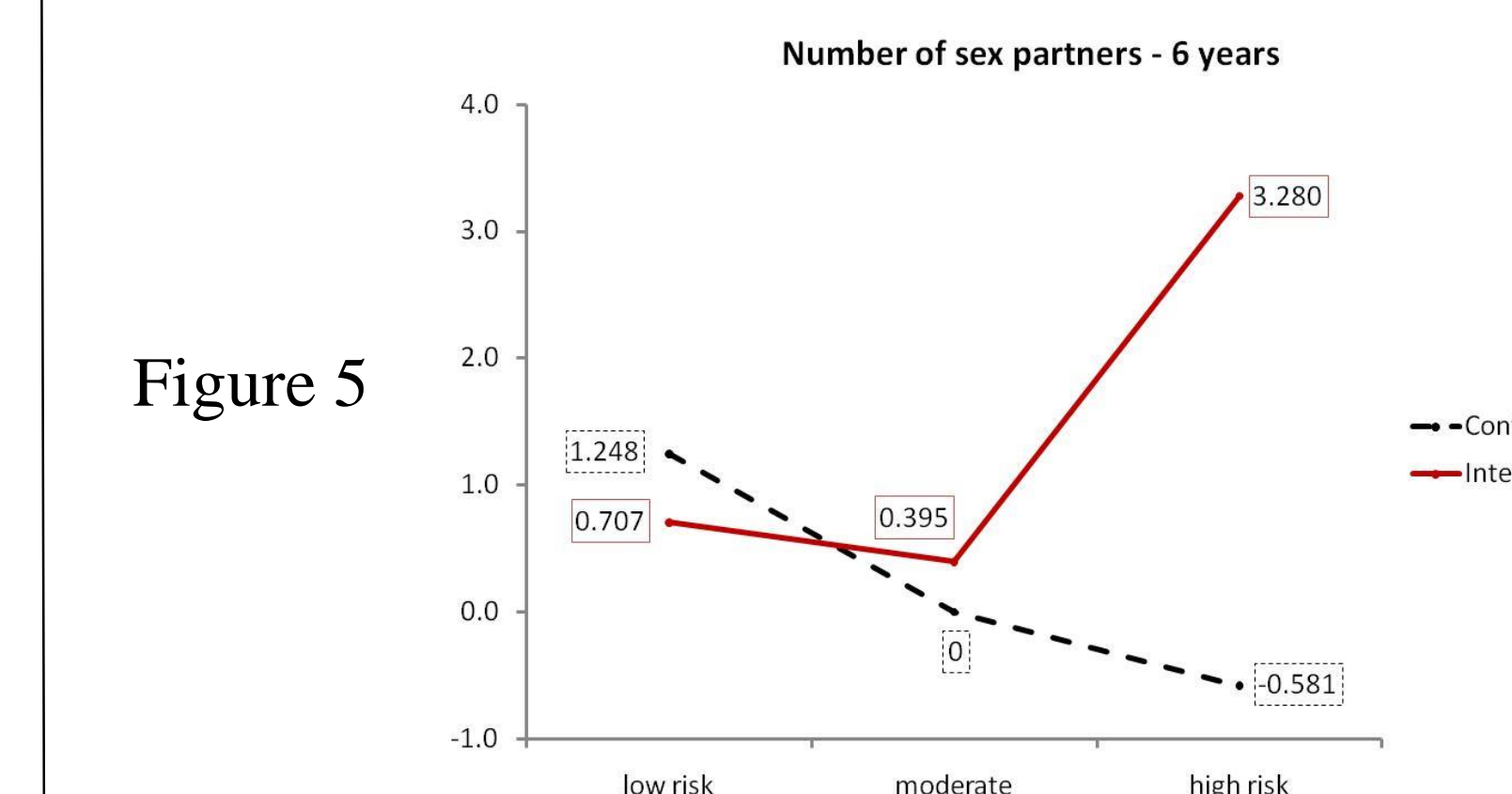


Figure 5

## Discussion

Using the baseline status of both youth and caregiver/family risk and protective factors in a Latent Class Analyses (LCA) a three class solution was obtained. When examining these three classes a “low risk”, “high risk” and a class that was neither high nor low risk emerged.

We applied this three class solution to assign individuals to subcategories according to their relatively homogenous types of risk and protective factors prior to their involvement in FBP intervention. We then examined whether this class solution moderated the program effects on outcomes 11 months and six years after the intervention. In terms of the findings at 11 months, there was one significant interaction observed, children and adolescents in the high risk class had significantly lower internalizing disorders by parent report compared to those in the comparison condition.

At the 6-year follow-up, FBP participants in the low risk class showed significantly fewer externalizing disorders than the high risk class. This positive finding needs to be balanced by the apparently iatrogenic effects observed with respect to substance abuse and number of sexual partners, where those in the high risk class who participated in the intervention show negative outcomes relative to the comparison condition. Further investigation of this pattern needs to be explored.