




# Deconstructing “Risk” in Youth Mentoring Programs: How Environmental Stressors and Presenting Challenges Shape Mentoring Relationship Outcomes

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## Abstract

Youth referred to mentoring programs vary considerably in the range and severity of difficulties (i.e., behavioral, internalizing, social and academic) and environmental challenges they face. However, their patterns of risk and corresponding consequences for mentoring have rarely been investigated. This study draws on data for youth participants in 30 mentoring programs ( $n = 2,165$ , 55.1% females) to examine patterns of presenting challenges. Four profiles emerged using three-step latent profile analyses. Profiles with more

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intensive symptoms were associated with more environmental stressors. Moreover, there were significant differences between profiles in youth-perceived relationship attributes, including closeness, youth-centeredness, growth focus and mentor-mentee relational health. The profile with the highest externalizing and social challenge indicators scored the lowest across these four relational indices. The results highlight variability of youth risk at baseline, and its differential impact on mentoring relationship outcomes. Implications for mentoring programs are discussed.

### **Keywords**

Mentoring, presenting challenges, environmental stressors, latent profile analysis

### **Background and Significance**

An estimated two and a half million children and adolescents in the United States are paired with non-parental adults through mentoring programs each year (Raposa et al., 2017), making mentoring one of the most common interventions for at-risk youth in the United States (DuBois & Karcher, 2015). These programs tend to serve youth from marginalized backgrounds, who face a wide range of environmental challenges and sometimes present with clinically significant emotional and behavioral challenges. For instance, in a recent national evaluation of 30 mentoring programs across the U.S., the vast majority (85%) of the mentees' parents reported that their children had recently been exposed to family stress (e.g., a family member struggling with substance use, frequent family arguments, homelessness), while more than three quarters (76%) noted that their child faced economic adversity (e.g., housing insecurity, gangs or drugs in their neighborhood, parent job instability), perhaps reflecting the fact that the median annual income for participating families was between \$20,001 and \$30,000—below the poverty threshold (Jarjoura et al., 2018).

Not surprisingly, given these multiple social, economic, and environmental stressors, many mentees in that study presented with challenges at baseline, including significant academic, social, mental health, and behavioral difficulties (Jarjoura et al., 2018). Indeed, at intake, more than half (52%) of the parents reported that their child was facing academic struggles (e.g., failing or at-risk of failing two or more classes/subjects in school, missing school three or more times a month) and/or experiencing difficulties with peers (i.e., being bullied and/or not having any close friends). Moreover, nearly half (46%) reported that their child had mental health concerns (i.e., frequent sadness and/or being under the care of a mental health care provider). Mentees in the

Jarjoura et al. (2018) study were nearly twice as likely as the national average to experience substance use challenges (8.60% vs. 5.13%; [Mental Health America, 2017](#)). They were also more likely to have had school suspensions in the past year than the national average (9.71% had two or more vs. 6.40% with one suspension for the national average; [National Center for Education, 2012](#)). Notably, only a quarter of the youth in the study were receiving counseling or therapy, and even fewer were getting special help at school (e.g., with a learning difference; 22%) or receiving medication for mental health struggles (20%; [Jarjoura et al., 2018](#)).

These presenting challenges likely have implications for mentoring relationships and outcomes, including potentially attenuated outcomes among youth who present with elevated problems and contextual risks ([DuBois et al., 2011](#)). In a study of 8953 mentoring matches, Kupersmidt and colleagues (2017) found that youths' criminality, academic challenges, risky health behaviors, behavioral regulation problems, and internalizing and externalizing problems were all significantly associated with mentor attrition, particularly as these challenges accumulated. Another study with 1139 mentoring dyads also found that matches with youth who started the program with higher levels of baseline stress were more likely to prematurely terminate ([Grossman et al., 2012](#)). The resulting early terminations of mentoring relationships may result in attenuated or negative youth outcomes due to their unexpected nature ([Grossman et al., 2012](#); [Grossman & Rhodes, 2002](#)). In fact, a series of qualitative studies suggest that early match terminations can lead to feelings of loss, disappointment and rejection in mentees ([Spencer et al., 2017](#); [Zilberstein & Spencer, 2017](#)).

It may also be the case, however, that mentors are more likely to invest in their relationships with vulnerable youth as there are more apparent needs and challenges, as well as greater potential for growth and change. This, in turn, may result in stronger mentoring relationship outcomes. In fact, findings from one large-scale study suggest that youth with high levels of individual risk (i.e., those facing challenges in their behavior, social or academic functioning, or health) may reap stronger benefits from mentoring than those with low levels of these challenges ([Herrera et al., 2013](#)). These youth-reported that their relationships were more growth, or goal, focused than youth with lower levels of individual risk. Yet, overall, differences across risk groups in outcomes in this study were relatively small, and the study found no differences in duration and other measures of relationship quality ([Herrera et al., 2013](#)).

Taken together, the results of these studies on the associations between mentees' initial risk and mentoring relationship outcomes are inconclusive. This lack of clarity may stem, in part, from conceptual ambiguity concerning the operationalization and analysis of youth "risk."

## The Problem with “risks”

The term “risk factors” has been understood as capturing constructs that are associated with a higher probability of onset, greater severity, and/or longer duration of health problems and clinical disorders (Coie et al., 1993). In youth mentoring research, these constructs have been characterized as *environmental risk factors*, such as neighborhood challenges (e.g., safety concerns, presence of gangs) and family difficulties (e.g., single-parent household, parent incarceration, homelessness) and *individual risk factors* (e.g., temperament, genetic vulnerabilities; DuBois et al., 2002; DuBois et al., 2011; Raposa et al., 2016). In the context of youth program evaluations, however, this latter term is sometimes broadened to encompass emotional, psychosocial, behavioral and other challenges as well as factors such as youth demographic indicators (e.g., gender, racial/ethnic identities). This has created conceptual confusion. Although behavioral issues may elevate the probability of subsequent detrimental outcomes through a process of developmental cascades (Moilanen et al., 2010), these individual presenting challenges are often manifestations of marginalized demographic statuses and environmental risk factors. A lack of clarity regarding terms could lead to the misconception that marginalized demographic statuses are inherent “risks” themselves, failing to acknowledge that systemic injustices, including racism, classism, and sexism, fundamentally situate individuals in disadvantaged positions (Marmot & Wilkinson, 2005). Hence, the terminology of “risk factors” fails to capture the nuances and associations within and between the sub-constructs they encompass. Specifically, it does not distinguish environmental stressors and individual sociodemographic characteristics from presenting challenges that mentees bring with them to mentoring programs. Distinguishing environmental stressors from manifestations of those stressors (e.g., presenting with depression or conduct problems) can help deflect victim-blaming explanations by acknowledging that the challenges youth bring into the programs are situated within larger systemic oppression (Weiston-Serdan, 2017). This is important because families and youth who hold marginalized identities often are at a disadvantage as they have less access to care and resources due to structural inequalities (Garland et al., 2003), and are more likely to use mentoring as an alternative approach to address youth presenting problems (Vázquez & Villodas, 2019).

Furthermore, the inconsistent use of the word “risk” in the mentoring literature has permitted considerable heterogeneity in the operationalization and classification of constructs. It has been difficult to compare findings across studies, as different researchers focus on different environmental stressors, sociodemographic factors, and presenting challenges. For example, “risk” has been assessed using a range of approaches including single-item indicators such as living in a single-parent household and having access to free lunch at

school (Herrera et al., 2011; Kupersmidt et al., 2017), summed checklists that place equal weight on diverse indicators (Raposa et al., 2016), or subgroups of aggregated difficulties that vary across studies, including academic challenges (Kupersmidt et al., 2017; Raposa et al., 2016), behavioral problems (Raposa et al., 2016), youth's criminality and externalizing problems (Kupersmidt et al., 2017), or mental health concerns (Herrera et al., 2013). While these approaches to variable selection may have directly addressed specific research questions, using the same "risk" terminology across approaches creates the impression that there is a distinct construct of "risk" when, in fact, risk is defined very differently in these and other studies. Furthermore, reducing complex constructs into binary counts (i.e., whether youth have one or more "risk factors"), which has been the approach of several meta-analytic studies to date (DuBois et al., 2002; 2011; Tolan et al., 2014), may result in over-generalization, and yield findings that lose the underlying nuances and interactions among complex environmental challenges, sociodemographic characteristics, and presenting challenges affecting youth.

Finally, there is also the issue of comorbidity and the dynamic associations that often occur amongst presenting challenges. As noted, youth presenting challenges are often categorized into a number of distinct categories in the mentoring literature—for example, academic challenges, social challenges, behavioral challenges, and mental health challenges (Herrera et al., 2013; Jarjoura et al., 2018; Kupersmidt et al., 2017). Yet, challenges in each of these domains rarely occur in isolation—for example, a subset of youth may present with both depression and peer relationship struggles. For example, Herrera et al. (2013) evaluated the efforts of programs tasked with recruiting "higher-risk" youth than they typically served and found that 52% of enrolling youth presented with social challenges, 53% with academic challenges, 48% with mental health challenges, and 23% with behavioral challenges, with substantial overlap in these categories. These issues of comorbidity and dynamic associations have long been acknowledged in developmental theory and research, in which associations among academic, behavioral, social and mental health problems are frequently observed. For instance, children with behavioral challenges, such as peer aggression or conduct problems, often present with relatively high rates of emotional problems such as depression and anxiety (Barker et al., 2010; Carney & Merrell, 2001; Griffin & Gross, 2004; Valdez et al., 2011; Wiesner & Kim, 2006). Likewise, youth who are struggling with emotional and behavioral challenges often face learning difficulties and impairment in academic functioning (Benner et al., 2013; Scruggs & Mastropieri, 1986).

Some researchers have suggested that this variation in the number and intensity of risk factors may account for exponential (as opposed to additive or linear) increases in the likelihood of diagnoses for some childhood health problems (Coie et al., 1993; Rutter, 1980). When the associations between risk

and outcomes are non-linear, the same problem can yield different outcomes depending on its severity. Moreover, the same problem may impact outcomes differentially due to the presence of comorbid presenting challenges (Coie et al., 1993). This highlights the need for methods that can better capture co-occurring presenting challenges.

## Person-Centered Approach

Within the youth development literature, there is ample evidence suggesting that examining the comorbidity of presenting challenges should move beyond a variable-centered, additive model to a more dynamic, person-oriented approach (Bonadio et al., 2016). Person-centered approaches allow for the detection of naturally occurring subgroups and represent higher-order interactions within mentees who present with different challenge profiles in a heterogeneous sample (Bonadio & Tompsett, 2018; Lubke & Muthén, 2005). These subgroups may have distinct and dominant characteristics or may present with a combination of attributes in varying magnitudes. To identify these subgroups, research has adopted the use of latent profile analysis (LPA) which accounts for unique groupings of presenting challenges (Bonadio et al., 2016).

LPA is a person-centered approach that is used to identify latent homogeneous subgroups of individuals with similar patterns of response across multiple measures (Lubke & Muthén, 2005). It is a statistically rigorous method to detect patterns of associations across a specified set of variables and to delineate the probabilities of group membership for each individual based on their profile of scores across the variable set. Intervention studies using LPA have largely focused on understanding how multiple environmental stressors, in addition to presenting challenges, may affect youth's treatment outcomes (Lanza & Rhoades, 2013; Spilt et al., 2013). More recent efforts have focused specifically on how presenting challenges are related to youth's experiences and outcomes in programs (Bonadio et al., 2016; Bonadio & Tompsett, 2018). However, few studies have explored a range of youth presenting challenges within the context of formal mentoring programs. Hence, there is a need for research to adopt this dynamic approach to further investigate the differential impact of *multiple* presenting challenges on mentoring outcomes.

## The Current Study

The purpose of this study is to understand heterogeneity in the behavioral profiles of youth mentees and investigate how individual and environmental stressors predict patterns of youth presenting challenges. This information will provide insight on how children who are enrolled in mentoring programs with

different presenting challenges are influenced by sociodemographic characteristics and environmental stressors. Within this context, a clear distinction was drawn between environmental stressors, sociodemographic characteristics, and individual presenting challenges, and a more dynamic approach was adopted to understand patterns of presenting challenges. Finally, this study investigates whether profiles of presenting challenges have differing implications for mentoring relationship outcomes, namely match duration, closeness, youth-centeredness, growth focus, and mentor-mentee relational health. Mentoring quality and duration are critical outcomes in mentoring program evaluations considering their links with broader youth outcomes of interest such as academic achievement and efficacy (Bayer et al., 2015; Grossman et al., 2012; Grossman & Rhodes, 2002). Given the modest effects found in recent mentoring meta-analyses (e.g., Raposa et al., 2019), moving away from variable-centered approaches to a person-centered approach can help identify those youth having more or less positive mentoring experiences and outcomes. It is hypothesized that distinct profiles of mentees' presenting challenges would be identified. These profiles, in turn, are expected to be associated with youth sociodemographic characteristics, environmental stressors, and mentoring relationship outcomes.

## Method

### *Participants and Procedures*

The current study utilized data from a large-scale evaluation of enhancements to multiple mentoring programs in the United States (Jarjoura et al., 2018). Thirty mentoring programs received funding from the Office of Juvenile Justice and Delinquency Prevention to examine the impact of advocacy and teaching in mentoring outcomes. The programs participating in this study included both community- and school-based programs, with the majority conducting one-on-one mentoring but some offering a group-based format. These programs varied in the number of participants they served, ranging from fewer than 100 mentees in some programs to more than 1000 in other programs. Mentoring was the primary service activity in most of the programs, and most were affiliated with a national organization, such as Big Brothers Big Sisters of America, 4-H, or the Police Activities League.

Mentor-mentee matches from these programs were randomized into either the *enhancement group* or the *business-as-usual group*. Mentors in both groups received the program's standard training and support, and mentors in the *enhancement group* received additional training and support in taking on teaching and advocacy roles with their mentees. Data were collected between 2013 and 2017 from mentors, mentees, and the mentees' parents at baseline (i.e., program enrollment), and 12 months after the youth began meeting with

a mentor. No statistically significant differences in mentoring outcomes were found between the two study groups in intent-to-treat analyses at the 12-month timepoint (Jarjoura et al., 2018).

A total of 2165 mentees participated in the study. Over half were female (55.1%) and the average age was 12.3 (SD = 1.43). Approximately one in three identified as Black/African American (36.7%), and one in four identified as White (22.4%) or Latino/Hispanic (23.5%). The remaining participants identified as American Indian or Alaska Native (3.5%), Asian (0.8%), or biracial/other race/ethnicity (13.1%). Mentors who participated in the study had an average age of 31.5 (SD = 12.20), and over half of them identified as female (57.1%) and White (64.0%). A majority of youth's responding parents were mothers/stepmothers (71.6%).

## Measures

**Presenting Challenges.** Presenting challenges were measured through baseline surveys of parents or youth (as noted):

*Internalizing symptoms* was measured using the 13-item Mood and Feelings Questionnaire (Angold et al., 1995). Youth rated items on a 3-point Likert scale, ranging from 0 (Not true at all) to 2 (True most of the time) for the presence of symptoms of depression in the past 2 weeks, with higher composite scores indicating higher levels of depressive symptoms. Sample items include, "I didn't enjoy anything at all" and "I felt I was no good anymore." (Cronbach's alpha: baseline = .91)

*Externalizing symptoms* was measured using the five-item Conduct Problems subscale from the Strengths and Difficulties Questionnaire (Goodman, 1997). Parents rated items on a 3-point Likert scale, ranging from 0 (Not true) to 2 (Certainly true). Items assessed whether youth exhibited problem behaviors within the past 6 months, with higher composite scores indicating higher levels of conduct problems. Sample items include, "Often loses temper" and "Steals from home, school, or elsewhere." (Cronbach's alpha: baseline = .71).

*Social challenges* were measured using the five-item Peer Problems subscale from the Strengths and Difficulties Questionnaire (Goodman, 1997). Parents rated items on a 3-point Likert scale, ranging from 0 (Not true) to 2 (Certainly true), indicating how youth related to peers in the past 6 months. Higher composite scores indicate higher levels of peer problems. Sample items include, "Would rather be alone than with other youth" and "Picked on or bullied by other youth." (Cronbach's alpha: baseline = .59).

*Academic challenges* were measured using the average of youth-reported academic performance across four subjects: Mathematics; Reading or Language Arts; Social Studies; and Science. Responses range from 1 (Not good at all) to 5 (Excellent). Scores were subsequently recoded from a 1–5 scale to a



0–4 scale to more closely reflect a GPA measure. Finally, the scores were reversed to indicate academic difficulties, with higher scores indicating worse academic performance.

**Sociodemographic Factors.** *Sociodemographic factors* were collected through the parent baseline survey. Biological sex of the child was assessed with a dichotomous variable (1 = male, 0 = female). Participants were also asked to report on their child’s race/ethnicity by selecting one or more of the following race/ethnicities: Latino/Hispanic; Caucasian/White; African American/Black; American Indian or Alaska Native; Asian; Pacific Islander; or Other. Age of participant was calculated using the participant’s date of birth and the date of baseline survey completion.

**Environmental Stressors.** Parents were asked to indicate whether youth experienced stressors within the following groups of challenges by indicating “yes” or “no” for each item within each group (Herrera et al., 2013; Jarjoura et al., 2018). In the analysis, each item within the three broader categories was evaluated separately.

**Family Challenges** were assessed with 12 items. Sample items include, “My child lives with only one parent or caregiver,” “My child has experienced homelessness in the last 5 years,” and “My child’s parents/guardians separated in the last year.”

**Economic Challenges** were assessed with three items: “In the last 12 months, there have been times when it has been hard for my child’s family to pay the bills,” “The total combined household income for my child’s family was less than \$20,000 last year,” and “There is not at least one adult who is financially responsible for my child currently working for pay or employed.”

**Neighborhood Challenges** were assessed with three items: “There are gangs or illegal drugs in the neighborhood where my child lives,” “My child lives in a public housing development or project,” and “My child lives in an unstable situation (his/her family could be asked/forced to leave).”

**Mentoring Relationship Outcomes.** *Match Duration* was created by calculating the number of days between the program-reported match initiation date and the program-reported match closure date.

All other mentoring relationship outcomes were measured at the 12-month follow-up using five measures:

**Youth-perceived closeness** was measured with a single item. Youth responded on a 4-point Likert scale, ranging from 1 (Not Close at All) to 4 (Very Close) to the item, “How close do you feel to your mentor?”

**Mentor-perceived closeness** was measured with a single item. Mentors responded on a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) to the item, “I feel close with my mentee.”

*Youth-centeredness* was measured using the Youth-Centered Relationship scale (Jucovy, 2002). Youth responded on a 4-point Likert scale, ranging from 1 (Not at All True) to 4 (Very True), to six questions about the extent to which they felt their input was considered in deciding what to do during their mentoring outings. Sample items include, "My mentor almost always asks me what I want to do," and "My mentor is always interested in what I want to do" (Cronbach's alpha = .90).

*Growth focus* was measured using a 6-item scale assessing a growth-oriented mentoring relationship (DuBois & Keller, 2017). Youth rated six items on a 4-point Likert scale, ranging from 1 (Not at All True) to 4 (Very True), about how they feel their mentor helps them set goals and grow. Sample items include, "My mentor and I spend time working on how I can improve as a person," and "My mentor helps me to set and reach goals" (Cronbach's alpha = .89).

*Mentor-Mentee Relational Health* was measured using the Relational Health Index (Liang et al., 2010). Youth rated six items on relational characteristics of the mentoring relationships using a 4-point Likert scale, ranging from 1 (Not at All True) to 4 (Very True). Sample items include, "My mentor helps me even more than I ask for or expected," and "My mentor tries hard to understand my feelings and goals about school, my life or whatever is important to me" (Cronbach's alpha = .87).

### Statistical Analyses

We conducted a person-centered approach to identify latent classes of youth based on their presenting challenges with an LPA analysis using Mplus version 8.0. Latent profiles were specified using presenting challenge indicators, with youth age, gender, race (White/youth of color), ethnicity (Hispanic/non-Hispanic), treatment condition (enhancement/business-as-usual), environmental risk factors and mentoring relationship outcomes as auxiliary variables. Multiple models were tested in an iterative process starting with a one-group model and increasing the number of groups until the data indicated that additional groups would decrease the fit. Model fit indices were estimated through Akaike information criterion (AIC), Bayesian information criterion (BIC), as well as the Vuong-Lo-Mendell-Rubin Likelihood Ratio Test (LRT) and entropy values. Classification quality, interpretability and parsimony were also considered in the determination of the final model for subsequent analyses (Berlin et al., 2014; Nylund et al., 2007; Schmiede et al., 2012).

Subsequently, we predicted these classes from auxiliary variables (i.e., environmental stressors and sociodemographic factors) using the R3STEP command in the 3-step procedure, in which auxiliary variables were regressed against a selected reference class. We used the DU3STEP command to

examine whether classes differed with respect to measures of mentoring relationship quality. The 3-step approach has stronger performance than the more traditional hard-partitioning 2-step approach—in which classes and prediction estimates are handled separately—because it takes into account classification error (Asparouhov & Muthén, 2014).

Participants with missing information from their initial presenting challenges (i.e., latent indicators) were excluded from the analysis ( $n = 77$ ), resulting in a total of 2030 mentees for all subsequent analyses. Missing data analyses using t-tests and chi-square tests revealed no significant differences between the full sample and the analytic sample in age, gender, race (White vs. youth of color) and treatment condition (i.e., enhancement vs. business-as-usual).

## Results

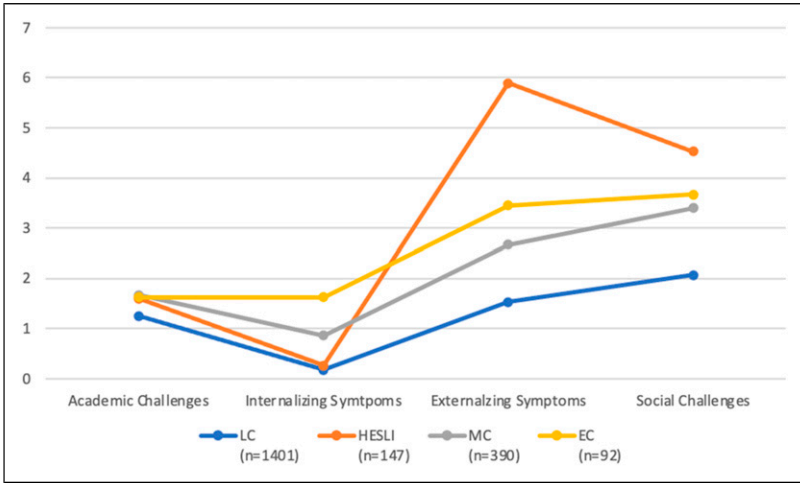
### Profile Results

Fit indices of evaluated models are presented in Table 1. Four classes emerged as the best-fitting model, as indicated by the plateauing fit indices (AIC, BIC) and non-significant LRT. The four-class solution identified classes that were primarily distinguished by levels of presenting challenges. The mean patterns of responses in presenting challenges among the four profiles are displayed in Figure 1. The first profile, labeled as *Low Challenges* (hereafter referred to as *Low*), described 69.01% of the sample ( $n = 1401$ ). This profile is characterized by relatively low levels of presenting challenges, including internalizing, externalizing, and social challenges. Notably, the levels of internalizing, externalizing and social challenges in this group are comparable to norms in 11- to 14-year-old Americans for the Strengths and Difficulties Questionnaire (Mellor, 2005). The second profile, labeled as *High Externalizing and Social Challenges and Low Internalizing Challenges (HESLI)*, described 7.24% of the sample ( $n = 147$ ). This profile is characterized by particularly high levels of

**Table 1.** Latent Profile identification statistics.

Models	AIC	BIC	Entropy	LRT	LRT p
2	22,425.233	22,498.238	0.878	808.669	<.001
3	22,021.274	22,122.358	0.901	403.366	<.001
4	21,727.376	21,856.539	0.859	296.122	<.001
5	21,587.057	21,744.299	0.837	146.472	0.0513
6	21,521.106	21,706.427	0.824	74.008	0.1199

Note. AIC = Akaike information criterion; BIC = Bayesian information criterion; LRT = Vuong-Lo-Mendell-Rubin Likelihood Ratio Test.



**Figure 1.** Profile estimates of youth presenting challenges. Note. Lc = low challenges, HESLI = high externalizing and social challenges and low internalizing challenges; MC = Moderate challenges, EC = elevated challenges.

externalizing challenges and social challenges, but low levels of internalizing challenges. The third profile, labeled as *Moderate Challenges* (hereafter referred to as *Moderate*) described 19.21% of the sample ( $n = 390$ ). This profile is characterized by higher levels of presenting internalizing, externalizing and social challenges than the *Low* profile. Finally, the fourth profile, labeled as *Elevated Challenges* (hereafter referred to as *Elevated*), described 4.53% of the sample ( $n = 92$ ). This profile is characterized by relatively high levels of presenting internalizing, externalizing and social challenges. Notably, academic challenges do not appear to meaningfully contribute to the profile classifications.

### Profile Group Differences

Using *Low* as the reference profile, mentees in the *Moderate* ( $b = 2.08, p < .001$ ) and *Elevated* ( $b = 2.64, p < .001$ ) profiles were more likely to be in the *enhancement* group, as opposed to the control (i.e., business-as-usual) group, whereas mentees in the *HESLI* profile were just as likely as those in the *Low* profile to be assigned to either treatment condition ( $b = 0.73, p = .273$ ).

Associations between profiles and sociodemographic and environmental challenges are presented in [Table 2](#). Using *Low* as the reference profile, mentees in the *Moderate* ( $b = 0.14, p = .016$ ) and *Elevated* ( $b = 0.28, p = .007$ ) profiles were older. Moreover, compared to mentees in the *Low* profile, mentees in the *HESLI* profile ( $b = -0.82, p = .006$ ) were less likely to be

**Table 2.** Associations between environmental stressors and profiles, using *Low Challenges* profile as reference profiles.

	HESLI (n=147)			Moderate Challenges (n=390)			Elevated Challenges (n=92)		
	b	SE	p	b	SE	p	b	SE	p
<b>Sociodemographic</b>									
Age	0.11	0.11	.344	0.14*	0.06	.016	0.28**	0.11	.007
Female	-0.82**	0.30	.006	0.36*	0.17	.038	0.70*	0.33	.031
Race (white)	0.18	0.43	.671	0.27	0.23	.225	0.60	0.39	.121
Ethnicity (hispanic)	0.25**	0.97	.009	0.15**	0.05	.005	0.11	0.10	.272
<b>Family challenges</b>									
Single-parent household	0.25	0.42	.554	0.38	0.25	.126	0.67	0.41	.105
Family member struggles with alcohol or drug use	0.25	0.37	.493	-0.23	0.25	.350	-0.16	0.42	.697
Incarcerated family member	0.60	0.53	.259	0.18	0.31	.553	1.13*	0.44	.011
Homelessness (last 5 years)	-0.34	0.71	.631	-0.58	0.49	.237	-0.27	0.64	.668
Foster care (current)	1.80***	0.35	<.001	0.73**	0.21	.001	1.03**	0.36	.004
Foster care (mentee/ siblings within the last 5 years)	0.74	0.35	.033	0.07	0.18	.717	0.10	0.33	.759
Many fights or arguments in child's home	-0.18	0.34	.597	0.26	0.19	.168	0.31	0.34	.360
Child lost contact with important adult role model in the last 12 months	-0.04	0.58	.945	-0.09	0.29	.767	-0.86	0.67	.200
Frequent moving (different home 2 or more times in the last 12 months)	0.74	1.12	.513	0.66	0.93	.479	1.06	1.16	.361
Caregivers separated in the last year	0.29	0.45	.523	0.30	0.27	.268	-0.30	0.69	.664
Caregiver diagnosed with a mental health issue	1.32**	0.37	<.001	0.33	0.21	.122	-0.11	0.40	.793
Caregiver has low educational attainment (no adult who lives with mentee graduated from high school)	0.35	0.38	.356	0.28	0.24	.233	0.48	0.39	.224

(continued)

**Table 2.** (continued)

	HESLI (n=147)			Moderate Challenges (n=390)			Elevated Challenges (n=92)		
	b	SE	p	b	SE	p	b	SE	p
<b>Economic challenges</b>									
Hard to pay the bills in the last 12 months	0.10	0.36	.785	0.27	0.19	.148	0.01	0.32	.980
Combined household income < \$20,000	1.03*	0.46	.023	0.17	0.22	.428	-0.05	0.39	.903
No adult in household is currently working for pay or employed	0.59	0.38	.122	-0.03	0.23	.892	0.38	0.37	.311
<b>Neighborhood challenges</b>									
Gangs/illegal drugs in the neighborhood	0.65*	0.32	.047	0.33	0.20	.100	0.40	0.35	.250
Youth lives in a public housing development or project	0.03	0.36	.939	-0.12	0.26	.639	-0.77	0.52	.133
My child lives in an unstable situation (his/her family could be asked/forced to leave)	-1.22*	0.59	.039	-0.26	0.38	.486	-1.87	1.46	.198

Note. HESLI = High Externalizing and Social Challenges and Low Internalizing Challenges.

\* $p < .05$ , \*\* $p < .01$ , \*\*\*  $p < .001$ .

female, while mentees in the *Moderate* ( $b = 0.36, p = .038$ ) and *Elevated* ( $b = 0.70, p = .031$ ) profiles were more likely to be female.

Again, using *Low* as the reference profile, mentees in the *HESLI* profile were more likely to be currently in foster care ( $b = 1.80, p < .001$ ) and more likely to have a caregiver diagnosed with a mental health issue ( $b = 1.32, p < .001$ ). Families of mentees in the *HESLI* profile were also more likely to have a combined household income of less than \$20,000 ( $b = 1.03, p = .023$ ) and reside in neighborhoods with active gang or illegal drug activity ( $b = 0.65, p = .047$ ). However, these mentees were less likely to be in an unstable living situation ( $b = -1.22, p = .039$ ).

Compared to the *Low* profile, youth in the *Moderate* ( $b = 0.73, p < .001$ ) and *Elevated* ( $b = 1.03, p = .004$ ) profiles were more likely to currently be in foster care. Mentees in the *Elevated* profile were also more likely to have an incarcerated family member ( $b = 1.13, p = .011$ ).

**Table 3.** Differences in mentoring relationship outcomes between profiles using DU3STEP in three-step process.

	Means				Overall Test		Post Hoc Differences
	Profile 1: Low	Profile 2: HESLI	Profile 3: Moderate	Profile 4: Elevated	$\chi^2$	p	
	n = 1401	n = 147	n = 390	n = 92			
Mentoring outcomes							
Match duration	349.225	452.816	349.795	350.111	2.342	.505	n/a
Youth-perceived closeness	3.544	2.530	3.106	3.344	58.915	<.001	1 > 2***, 1 > 3***, 3 > 2**, 4 > 2***
Mentor-perceived closeness	3.810	3.394	3.627	3.509	6.496	.090	n/a
Youth-centeredness	18.399	12.888	15.972	17.230	159.587	<.001	1 > 2***, 1 > 3***, 1 > 4*, 3 > 2***, 4 > 2***
Growth focus	19.703	15.884	17.859	18.310	12.052	.007	1 > 2*, 1 > 3**
Mentor-mentee relational health	21.275	15.088	18.882	20.025	91.336	<.001	1 > 2***, 1 > 3***, 3 > 2***, 4 > 2***

Note. Low = Low Challenges, HESLI = High Externalizing and Social Challenges and Low Internalizing Challenges; Moderate = Moderate Challenges, Elevated = Elevated Challenges.

\*  $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

## Mentoring Relationship Outcomes Based on Profile

Profile differences in mentoring relationship outcomes are presented in Table 3. There were no significant differences in match duration and mentor-perceived closeness across the profiles. There were, however, significant differences between groups in youth-perceived closeness ( $\chi^2 = 58.92, p < .001$ ), youth-centeredness ( $\chi^2 = 159.59, p < .001$ ), growth focus ( $\chi^2 = 12.05, p = .007$ ), and mentor-mentee relational health ( $\chi^2 = 91.34, p < .001$ ). Of note, the *HESLI* profile scored the lowest across these four mentoring relationship outcome indices, whereas the *Low* profile scored highest on these indices. In fact, post hoc analyses revealed that the *HESLI* profile was significantly different from all three other groups in youth-perceived closeness, youth-centeredness and mentor-mentee relational health, signifying that the high externalizing pattern is distinct from the others in its association with relationship quality. The *Moderate* profile also scored significantly lower on these relationship indices than the *Low* profile, further underscoring the toll that externalizing problems may take on relationship strength. By contrast, the *Elevated* group had the second highest scores on the four indices of relationship outcome indices and was not significantly different from the *Low* profile.

## Discussion

The purpose of this study was to understand differential patterns of presenting challenges among youth mentees and how these might be associated with individual and environmental stressors. We also explored associations between patterns of mentees' presenting challenges and mentoring relationship outcomes, including match duration and indicators of relationship quality. Overall, results indicated statistically meaningful subgroups of mentees based on their presenting challenges at baseline (i.e., *Low*, *Moderate*, *Elevated*, *HESLI*). The emergence of these profiles showed that mentees' presenting challenges can be understood through the lens of varying intensities and combinations across problem domains, as well as through specific, dominant types of challenges. This is consistent with youth development studies, in which presenting challenges rarely occur in isolation (Barker et al., 2010; Valdez et al., 2011). LPA is typically advantageous when researchers are interested in identifying homogenous subgroups within a sample (Lanza & Rhoades, 2013). In this case, it allowed for examining the possible constellation of youth presenting challenges in mentoring programs.

It is important to note that the majority (70%) of youth in this study fit into the *Low* profile, presenting with relatively low levels of internalizing, externalizing, and social challenges. Although it is encouraging that most youth are functioning relatively well despite adversity, this finding also highlights



the fact that a sizable minority (almost a third) present with challenges that may jeopardize match quality. Interestingly, academic challenges, as indicated by grades, appear to be similar across all profiles. Self-reported grades capture only one aspect of academic challenges, and it is possible that other indicators (e.g., learning differences, teacher-rated performance, school engagement, attendance), or a combination of indicators may yield different associations with the challenges we measured in this study.

Although the authors of the original study found few statistically significant differences in baseline characteristics between youth randomly assigned to the two study groups (enhancement vs. business-as-usual) (Jarjoura et al., 2018), the current study found that youth in the *Moderate* and *Elevated* profiles were more likely than those in the *Low* profile to have been randomly assigned to the enhancement condition. This difference in intervention group could very well have affected mentor behavior in a way that trickled down to relationship quality. However, it is important to note the original study found that relationship quality differences generally favored youth with mentors who implemented the enhancements. Thus, the fact that youth in the *Low* profile (who were less likely to be in the enhancement condition) reported the strongest relationships in this study supports the idea that these differences were not simply an artifact of intervention differences across the profiles. To further emphasize this point, the two profiles that were more likely represented in the enhancement condition (*Moderate*, *Elevated*) were divergent regarding findings on relationship quality, as were the two profiles less likely to be in the enhancement condition (*Low*, *HESLI*).

This study also examined associations between constructs that previous studies have often aggregated and labeled as “risks.” Specifically, associations between specific patterns of presenting challenges and both sociodemographic variables and environmental stressors were examined. Results revealed sociodemographic differences across the four profiles. Mentees in the *HESLI* profile were more likely to be male than youth in the *Low* profile, while mentees in the *Moderate* and *Elevated* profiles were more likely to be female. This is not surprising, as male adolescents tend to exhibit higher levels of externalizing behaviors than girls (Deater-Deckard et al., 1998), whereas female adolescents tend to show more symptoms of depression than their male counterparts (Salk et al., 2017; Wade et al., 2002). We also found that mentees in the *Moderate* and *Elevated* profiles tended to be older than in the *Low* profile. This is consistent with findings where later adolescence were more likely to have internalizing, externalizing and social challenges due to their increasing cognitive awareness about their challenges and environment but less emotion regulation strategy repertoire (Abad et al., 2002; Zimmermann & Iwanski, 2014). However, other studies have also found that presenting challenges shift across the developmental lifespan (Lahey et al., 2000). Yet, some report that *younger* adolescents may have particular vulnerabilities to

challenging circumstances (Tucker et al., 2005), suggesting that more research is warranted to understand our current pattern of findings.

Results also indicated that environmental challenges, such as family stresses, were associated with a higher intensity of presenting challenges. Specifically, membership in the *HESLI*, *Elevated*, and *Moderate* profiles was associated with a range of environmental challenges, including being in the foster care system, having a family member who was involved in the criminal justice system, having a caregiver who had been diagnosed with a mental health issue, and living in a low-income household. This is not surprising, as research has shown that environmental stressors are often associated with the intensity of presenting challenges in youth, including challenges in social relationships (Pachter et al., 2006; Sander & McCarty, 2005). In particular, the stigma, embarrassment, and instability associated with foster care placement or parental struggles could lead youth to be reactive in social situations or to withdraw from peer interactions that could lead to unwanted scrutiny (Dansey et al., 2019).

Taken together, these results highlight the importance of distinguishing environmental stressors from manifestations of those stressors (e.g., presenting with depression or conduct problems; Herrera et al., 2013; Jarjoura et al., 2018). Such distinctions will help to deflect victim-blaming narratives and enable program staff to remain cognizant of the complex dynamics youth are bringing with them to mentoring programs.

Our study also highlights the importance of examining how mentees' presenting challenges may affect relationship outcomes, particularly when mentees were experiencing multiple baseline challenges that could impact their experiences of the mentoring relationship. Notably, youth in the *Low* profile reported significantly higher perceived levels of closeness, youth-centeredness, growth focus and mentor-mentee relational health than all other groups. Although previous studies have not always found associations between mentoring relationship quality and youth challenges (e.g., Herrera et al., 2013), such associations may have been obscured by the more typical approach to risk assessment. Interestingly, relative to the other groups, mentees in the *HESLI* profile reported the lowest perceived levels of closeness, youth-centeredness, growth focus and mentor-mentee relational health. This group was also significantly different from the *Moderate* and *Elevated* profiles on a number of indicators of relational quality. It is possible that youth with a history of externalizing behavior problems may resist prosocial relationships with helping adults, which may affect mentors' experiences in, and approaches to, these relationships and overall relationship quality. Indeed, previous research has highlighted the potentially negative toll that externalizing behavior can have on mentors' satisfaction (Spencer, 2006) and ability to focus on goals and remain engaged (Kupersmidt et al., 2017). Likewise, youth who present with baseline social struggles may tend to have

more difficulty trusting and forming attachments with their mentors. For example, youth with insecure attachments, or with significant disruptions in their attachments to primary caregivers (e.g., children of prisoners, children in foster care) may find it particularly difficult to engage in other relationships such as with peers and teachers (Natarajan et al., 2011); consequently, they may also be resistant or hesitant to engage with new adults (Shlafer et al., 2009). More generally, these findings and others highlight the struggles to forge close, youth-centered ties in the context of internalizing, externalizing, and social challenges (Herrera et al., 2013; Spencer et al., 2020) and the need for ongoing—potentially targeted—mentor training and support.

Of note, although we found profile differences in youth rated relationship closeness, no differences were found between profiles in mentor-rated closeness. That is, mentors indicate similar levels of closeness regardless of profile. It is possible that mentors and mentees may be drawing from different experiences to assess mentoring relationships (Varga & Deutsch, 2016), or that mentor-reported closeness is not as sensitive to differences these youth are bringing into the relationship. It may also be the case that mentors are not attuned to the challenges their mentees may be facing that could impact their experience of the mentoring relationship (Pryce, 2012). Regardless, the discrepancy between mentor and mentee perceived closeness is notable and warrants further investigation in future research.

Given the importance of mentoring relationship quality for fostering positive youth outcomes (Liao & Sánchez, 2019), our findings suggest that programs may want to consider tailoring their approach depending on youth characteristics and their social, emotional, and behavioral needs to help ensure that all youth (regardless of risk profile) benefit from program participation. Programs could determine whether mentees have salient challenges, identify the best, evidence-based approaches to employ in those cases, and then match them to mentors with the experience necessary to effectively support them. Mentoring programs should consider the complex challenges that each youth brings to the program and provide mentors and mentees with evidence-based approaches to help them form strong mentoring relationships. As our analyses suggest, a subset of youth present with multiple struggles, and different subgroups of youth are likely to benefit from different components or combinations of approaches. One solution to this need for more individualized care is to take a modular approach, which allows programs to select from a menu of evidence-based protocols based on the particular needs of a given youth (McQuillin & Lyons, 2016). For example, modular treatments that target the underlying factors of particular mental health problems (e.g., depression, anxiety, stress responses) are practical and responsive interventions for youth (Marchette & Weisz, 2017). Having access to a menu of discrete intervention strategies enables programs to respond more nimbly to mentees' needs and circumstances. This would mean incorporating targeted, evidence-

based skills training for mentoring dyads while also allowing time for recreational, relationship-building activities (Karcher et al., 2002; King et al., 2002).

Furthermore, programs should consider strategies for collaborating with caregivers at the beginning of the mentoring relationship (Spencer et al., 2011). Given that families are most familiar with their children's initial challenges and circumstances, their input will be critical in allowing mentors and program staff to recognize and design services based on the youth's needs. This is important, as research has shown that parents' expectations and practical concerns often emerge in the early, vulnerable stages of relationship development (Spencer, 2006). Supporting parents and guardians in developing strong relationships with mentors and mentoring program staff in this early phase can contribute to enhancing mentoring outcomes (Keller, 2005).

Finally, research is needed to examine the effectiveness of potential approaches to delivering and scaling strategies for mentoring tailored to the individual needs of mentees, such as incorporating targeted, mental health apps into efforts to focus on achieving defined goals. It is also important for programs and researchers to examine how the effectiveness of these approaches may intersect with context, culture, the mentor-mentee alliance and mentor characteristics.

### *Limitations*

Several limitations of this study should be noted. To begin, the profiles discussed in this study were constructed using four specific domains of presenting challenges. While these variables covered a range of indicators and symptoms, they are not exhaustive of the presenting challenges youth may bring with them into mentoring programs (e.g., eating, post-traumatic stress, obsessive-compulsive disorders). A more extensive baseline assessment might have resulted in a more nuanced grouping of youth. Additionally, the indicator for social challenges (i.e., peer problems) had a relatively low Cronbach's alpha in the sample. Hence, the results of this study, particularly with respect to social challenges, should be interpreted with caution.

More generally, as latent profile analysis is primarily data driven, the selection of variables (both latent and auxiliary) for the profile analyses may have dictated how the constellation of profiles was derived, which subsequently influences the associations with sociodemographic and environmental challenge indicators. LPA is also sample specific, so different results may have emerged with youth representing different programs and populations. It is also important to note that there are limitations in how sociodemographic and environmental challenge indicators were measured. In this study, these variables dichotomously or categorically captured youth's identity and/or circumstances and failed to capture how individuals may be interacting with

their environments. Further studies should consider measuring youth's subjective experience of their identities and environmental challenges that can better mark the influence of larger systemic issues such as racism, sexism and poverty.

Additionally, there may also be unmeasured confounding variables that affect the groupings, such as attachment (Monjaras-Gaytan et al., 2020) and the youth's baseline relational network (Schwartz et al., 2011). Future research should consider examining the stability of profiles based on variations in presenting challenge indicators, and how that may be associated with predictors and outcomes. Moreover, just as there are trade-offs with any statistical procedures, the three-step procedures are not able to account for baseline covariates in outcome estimation. Examining differences in relationship outcomes across the profiles could be strengthened by deploying techniques that account for these individual and environmental risks. As such, future efforts should be made into developing three-step procedures that can account for baseline covariates in the outcome estimation. In addition, mentoring relationship outcomes were examined after a 1-year period, and the sample included youth in active matches as well as matches that had ended. As such, it will be important to investigate the extent to which associations with relationship characteristics are sustained beyond that time period for the different profiles, and whether outcomes may differ between active and terminated matches.

Although results indicated differences in mentoring relationship outcomes, the processes behind these relationship outcomes were not explored in this study. Program-level variances also were not accounted for in our current study. In future studies, it will be important to use multilevel methodologies to investigate how youth profiles are associated with particular mentoring activities and program structures, and how youth in various profiles may experience mentoring programs differently. It is also important for researchers to develop statistical strategies that allow for multilevel and three-step procedures to be estimated simultaneously in latent profile analyses. Finally, although this study used a multi-informant approach (i.e., self-, parent-, and mentor-report) to assess presenting challenges and associated relationship outcomes, the survey methodology is limited to participants' subjective perceptions of their experiences. Future studies should consider using other tools such as school records, observations, and diagnostic assessments to holistically assess additional mentoring relationship outcomes as well as broader youth outcomes.

## *Conclusion*

Taken together, our analyses suggest that youth enter mentoring programs with varying degrees and patterns of challenges and that these challenges are

related to certain sociodemographic characteristics and environmental stressors. Although most youth appear to be relatively resilient, a sizable proportion are coping with a range of challenges, including elevated levels of distress and externalizing behavior. It is possible that these youth and their caregivers may be approaching mentoring programs to address such challenges, hence it is recommended for mentoring programs to increase their emphasis on understanding and responding to the challenges youth bring with them to the program. This could mean moving away from nonspecific, “friendship” approaches for some youth to a more specified approach in which mentors and programs seek to understand the origins of youth’s struggles and provide more individualized approaches to care. The results of the study also suggest that youth with different initial presenting challenges may experience their mentoring relationships differently, which may help explain the persistently modest effects of mentoring programs on broader youth outcomes seen in other evaluations. Findings also support further investigation into the effectiveness of adapting different mentoring approaches to match the varying needs and circumstances of youth who are referred to formal mentoring programs.

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