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EVALUATING BEST PRACTICES IN GROUP MENTORING: A MIXED METHODS STUDY

by

KATHERINE ERICKSON HALE

Under the Direction of Gabriel Kuperminc, PhD

ABSTRACT

Group mentoring is a resource-efficient and promising approach to youth intervention that allows for one or more adult mentors to interact with at least two youth for the purpose of fostering positive development (Dubois et al., 2011). Existing research identifies group mentoring as an effective intervention for improving socio-emotional and behavioral youth outcomes by promoting mentor-mentee relationship quality and positive group processes (e.g. group climate, group cohesion; Kuperminc, 2016). To date, most studies of group mentoring have focused on direct effects of program participation; thus, little is known about the program practices and group characteristics that may be associated with mentor-mentee relationship quality, group processes, and positive outcomes. Some potential key practices have been identified in the literature including mentor training, co-mentoring, interaction focus, and

mentor-to-mentee ratio (Herrera et al., 2013; Karcher & Nakkula, 2010; Kuperminc & Thomason, 2013).

The current mixed-methods study aimed to begin filling gaps in the group mentoring literature by examining group characteristics and practices that may contribute to positive youth outcomes. The study examined the hypothesis that mentor-mentee relationship quality and group processes mediate the associations between group characteristics (i.e., mentor training, co-mentoring, interaction focus, and mentor-to-mentee ratio) and youth outcomes (i.e., school belonging, self-efficacy, grade point average, earned academic credits). Results revealed preliminary evidence for the positive influence of smaller mentor-to-mentee ratio, mentor training attendance, and instrumental interaction focus on GPA (ratio and training) and group cohesion (instrumental focus), which emerged from mean difference testing. Multilevel structural equation modeling revealed that higher mentee ratings of mentor-mentee relationship quality were associated with increases in school belonging, and positive mentee-reported group climate was associated with increases in both school belonging and self-efficacy. These findings are discussed within the context of qualitative data from mentor and mentee focus groups.

INDEX WORDS: Group mentoring, Positive youth development, Best practices, Program evaluation, Youth mentoring

EVALUATING BEST PRACTICES IN GROUP MENTORING: A MIXED METHODS
STUDY

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KATHERINE ERICKSON HALE

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

in the College of Arts and Sciences

Georgia State University

2020

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May 2020

DEDICATION

This dissertation is dedicated to Donna Darity Hale (1950 – 2018), unconditionally loving mentor to many. And, to her patient, kind, steadfast son, Pierce, and her grandarlins, Isaac and Marie.

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I am grateful for and to my advisor and committee chair Dr. Gabe Kuperminc for his guidance, perspective, and encouragement. So many of my positive outcomes are because of our mentor-mentee relationship quality. He also leads the EcoLab, where group cohesion and group climate are above average. Thank you, EcoLab and writing group comrades- Scot, Christyl, Hannah, Claudia, Nadim, Jessica, Zahra, and Ciera- for the countless hours of brainstorming, statistics support, editing, and friendship.

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1 Chapter 1: Introduction

Over the past several decades, mentoring has become a popular youth intervention (DuBois & Karcher, 2014; DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011). Several million children and youth participate in more than 10,000 formal mentoring programs in the U.S. (Garringer, McQuillin, & McDaniel, 2017; Rhodes & DuBois, 2008). These programs are funded with hundreds of millions of dollars from government and private entities, like the Department of Justice, the National Basketball Association and Women's National Basketball Association, and Bank of America, rendering mentoring one of the most supported approaches to youth intervention in the country (MENTOR, 2018). Mentoring programs vary by context (e.g., community, workplace, school), structure (e.g., one-to-one, group), and goals (e.g., relational, developmental), which has made developing evidence-based best practices a complex undertaking (Karcher, Kuperminc, Portwood, Sipe, & Taylor, 2006).

Researchers define youth mentoring as a positive and caring, formal or informal, relationship where the mentor(s) shares her experiences, skills, knowledge, and time with the mentee(s) in order to help them achieve their full potential (DuBois & Karcher, 2014; Rhodes & DuBois, 2008). The underlying change theory of mentoring is grounded in attachment and interpersonal theories (Rhodes, 2005), which underscore the centrality of positive relationships in human development and well-being (Ainsworth, 1989; Bowlby, 1977; Sullivan, 1953). More than 20 years of research on youth mentoring reveal that a supportive and caring mentoring relationship is one of the primary determinants of positive youth outcomes (DuBois et al., 2011; Herrera, Sipe, & McClanahan, 2000; MENTOR, 2015; Parra, DuBois, Neville, Pugh-Lilly, & Povinelli, 2002; Rhodes, 2005).

A large body of research has shown that participation in formal youth mentoring programs leads to positive outcomes across behavioral, social, emotional, and academic domains (DuBois et al., 2011; Eby, Allen, Evans, Ng, & DuBois, 2008; Kuperminc, 2016). Youth who are at risk for behavioral and socio-emotional problems are especially likely to benefit from mentoring, making these programs integral for promoting equity among disadvantaged and vulnerable populations (DuBois et al., 2011). Further, positive outcomes have been observed across a range of mentoring programs, including traditional one-to-one and group-based models and programs held in different settings such as communities and schools (Herrera, Vang, & Gale, 2002; Kuperminc, 2016; Wheeler, Keller, & DuBois, 2010). It cannot be assumed, however, that the processes underlying effectiveness of varied mentoring models and approaches are the same (Karcher et al., 2006). For example, fundamental differences in program structure, relationship development, and change theory between one-to-one mentoring and group-based models necessitate clearly defining specific mentoring approaches, pinpointing mechanisms of change, and translating research findings to best practices (Karcher et al., 2006).

Recent research is beginning to reveal group mentoring as an effective and efficient youth intervention (Kuperminc, 2016). In this model, one or more mentors interact with at least two youth for the purpose of fostering positive development (Kuperminc & Thomason, 2013). Group mentoring provides opportunities for young people to experience multiple positive relational processes with mentors, peers, and the group as a whole (Kuperminc & Thomason, 2013). A 2017 review of 1,451 mentoring programs serving 413,237 youth found that 35% of programs use a group model exclusively and another 12% blend one-to-one and group models (Garringer et al., 2017). Compared to one-to-one mentoring, the group format may offer a more efficient use of resources and may be culturally relevant for people who are more inclined

toward an interdependent or relational orientation to youth intervention, including girls and youth from many cultural minority backgrounds (Garringer et al., 2017; Herrera et al., 2002; Lindsay-Dennis, Cummings, & McClendon, 2011).

Unfortunately, research has not kept up with the proliferation of group mentoring programs. In one-to-one mentoring, there are keystone publications documenting effective practices based on data from thousands of matches (Kupersmidt, Stump, Stelter, & Rhodes, 2017; MENTOR, 2015); however, there are very few research-based best practice resources for group mentoring. Although some theoretical and experiential wisdom is beginning to emerge, most best practices in group mentoring have yet to be empirically tested (Canadian Women's Foundation, 2015; Kuperminc & Thomason, 2013; Sherk, 2006).

Qualitative and quantitative data can provide insight into effective practices and the contexts in which they occur. The purpose of this mixed-methods study is to begin filling gaps in the empirical evidence for best practices in group mentoring by examining mentoring group characteristics and change mechanisms that contribute to positive youth outcomes. The quantitative analyses included multi-level structural equation models from two samples to investigate mediators of associations between group characteristics and youth outcomes at the within and between group levels. Qualitative analyses of mentor and mentee focus groups examined lived experiences of group characteristics, relationship quality, group climate, and the youth outcomes targeted by the program. See Figures 1.1, 1.2 and 2.1 for study models.

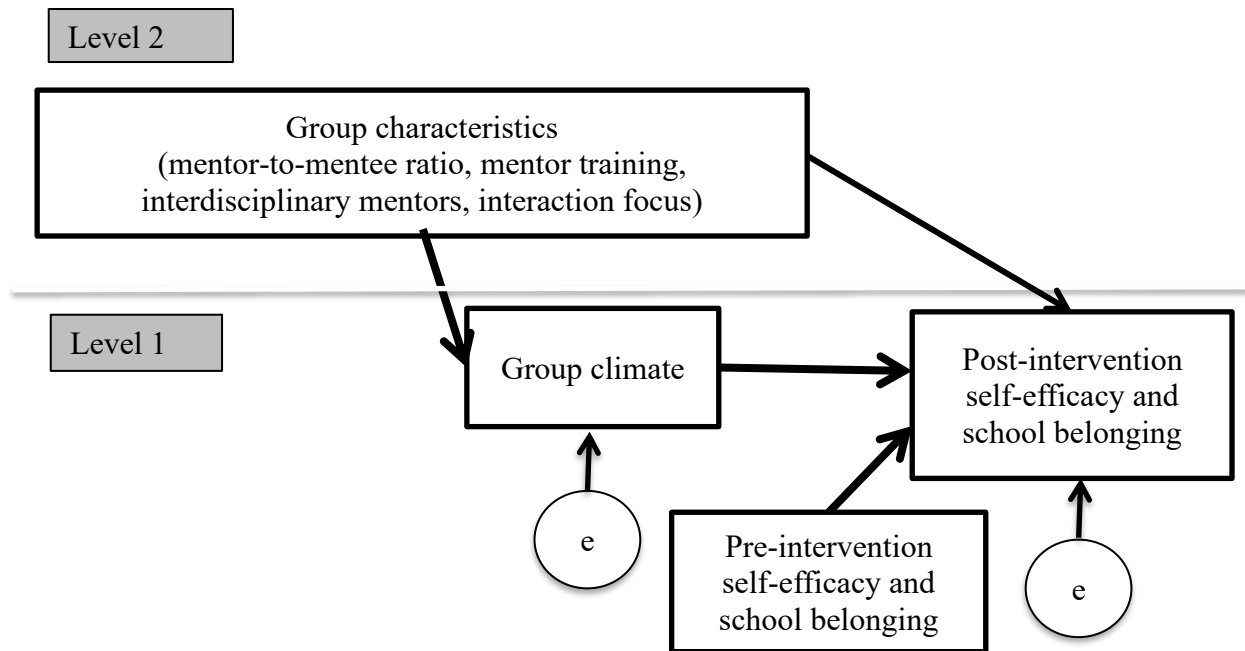


Figure 1. 1. Study 1 model predicting post-intervention self-efficacy and school belonging through group climate

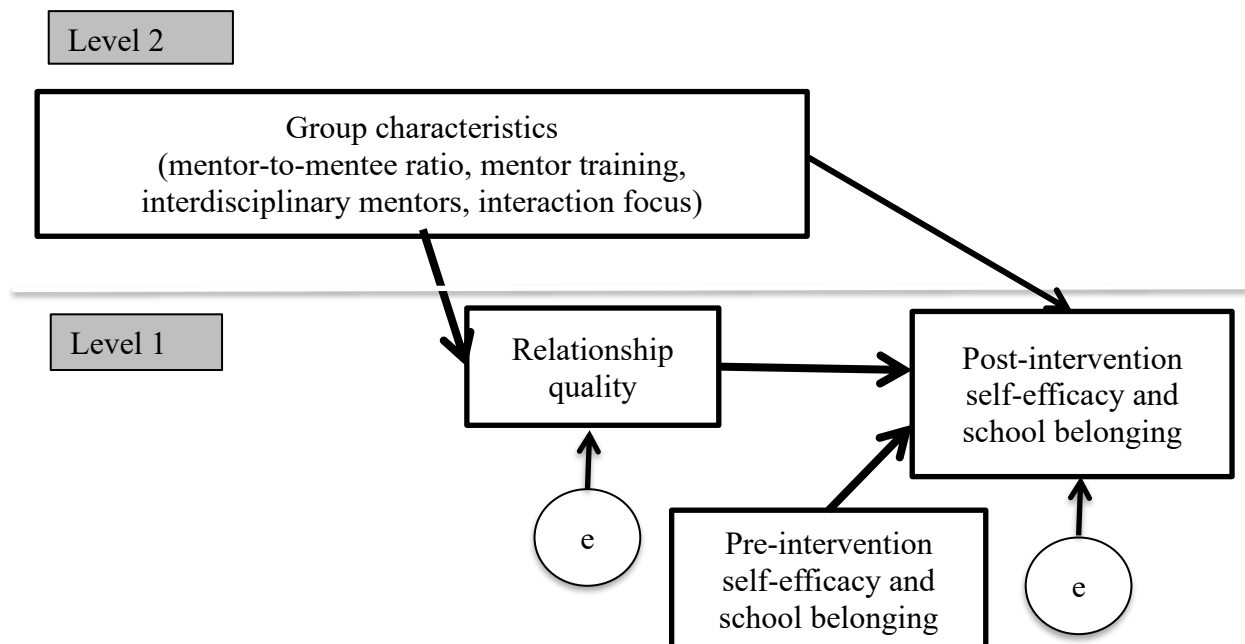


Figure 1. 2. Study 1 model predicting post-intervention self-efficacy through mentor-to-mentee relationship quality

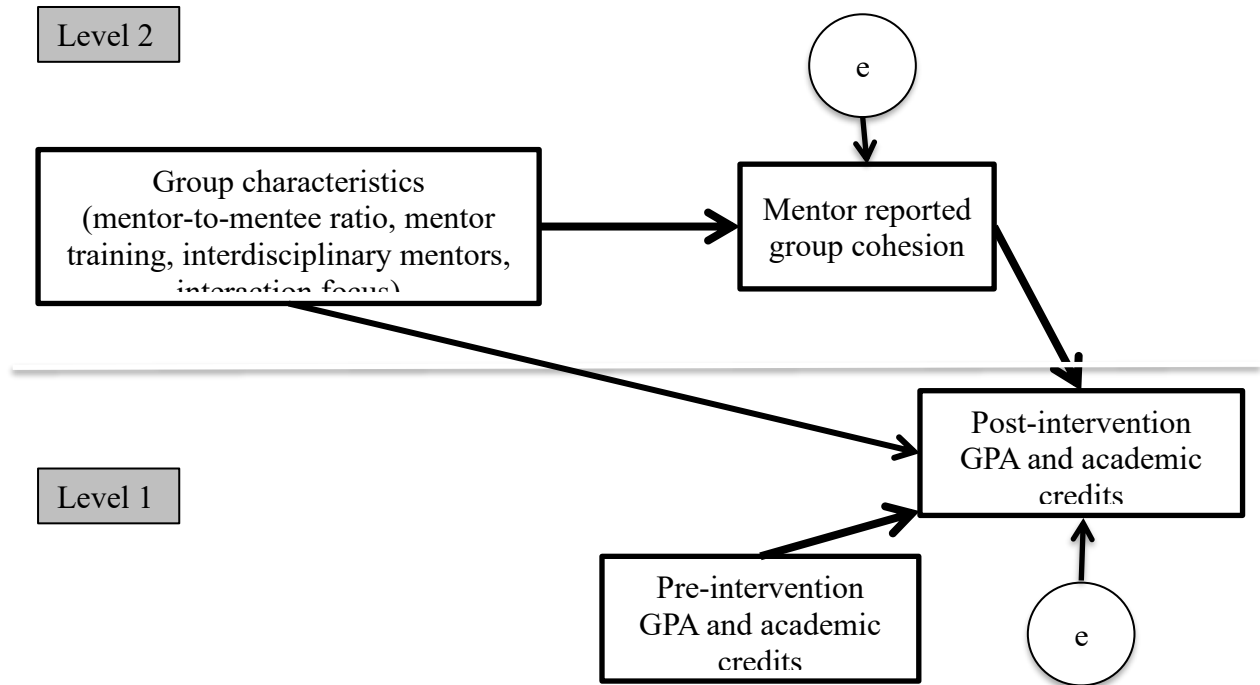


Figure 2.1. Study 2 model predicting post-intervention GPA and earned academic credits

2 Chapter 2: Literature Review

Peer reviewed studies and practice guidelines suggest that group mentoring can work well, but there is wide variation in how programs are implemented (e.g., populations, group structure, program practices; Kuperminc & Thomason, 2014). Not all programs are effective; there is substantial variability in implementation and group processes even within programs, and questions abound regarding practices that are most likely to lead to positive youth outcomes. There is limited research about mechanisms of change and what outcomes group mentoring may be particularly suited to achieve. The best way to investigate these questions would likely be through randomized control trials, testing specific practices against others and addressing contexts in which those practices are most effective; however, such practices are not currently well defined. Correlational studies offer a valuable first step by identifying key practices that might make a difference in youth outcomes. Specifically, mixed methods research can help uncover which practices may be associated with youth outcomes as well as provide a richer

understanding of how and why these practices contribute to outcomes through the lens of the mentors and mentees themselves.

This chapter will review available literature on the effectiveness of group mentoring, explore the underlying theories of change, and address possible shortcomings. It will provide an argument for potentially important group characteristics, which can inform program practices such as mentor training, group structure, and the use of co-mentors. Additionally, associations of these characteristics with proposed change mechanisms and youth outcomes will be explored.

2.1 Evidence for effectiveness of group mentoring programs

Group mentoring programs have likely been in existence for as long as traditional one-to-one mentoring programs; however, the first formal evaluation of group mentoring programs did not appear until 2002 (Herrera, Vang, & Gale 2002). This study revealed that youth participants in three programs reported improvements in social skills, positive peer interactions, academic performance, and relationships with parents and teachers. More recent studies have demonstrated similar positive outcomes including improvements in social support networks (Van Ryzin, 2014), decreased problem behavior (Seroczynski, Evans, Jobst, Horvath, & Carozza, 2016), and increased social skills (Jent & Niec, 2009).

Kuperminc's (2016) review of 42 group mentoring studies, including several that featured quasi- and experimental designs, found evidence for improvements in behavior (e.g., reduced delinquency, aggression, internalizing and externalizing symptoms), academics (e.g., grades, school interest, post-secondary participation), and socio-emotional well-being (e.g., self-efficacy, motivation, positive attitude). Some group mentoring programs have shown positive outcomes in all of these domains. For example, a quasi-experimental, mixed-methods evaluation of a program serving 16-24 year old youth who were on probation found that participants had

improved self-perception and emotion regulation (emotional), improved relationships with others (social), increased future educational orientation (academic), and reduced likelihood of being reconvicted of a crime (behavioral; Lynch, Astone, Collazos, Lipman, & Esthappan, 2018). A randomized control trial investigating the effects of a group mentoring program for youth in the foster care system revealed improvements in postsecondary participation and preparation, hope, self-determination, mental health empowerment, high school completion, and quality of life (Seroczynski et al., 2016). Further, group mentoring appears to be as effective as one-to-one (DuBois et al., 2011). These findings suggest that group mentoring is a promising youth intervention and at least as effective as one-to-one mentoring.

There is also evidence that group mentoring may result in more robust outcomes than one-to-one mentoring in some contexts. In a meta-analysis of 19 mentoring programs targeting young women's reproductive health, researchers found that group mentoring programs (n=7) were more effective and had a greater impact than one-to-one programs (n=12; Plourde, Ippoliti, Nanda, & McCarraher, 2017). Group mentoring was associated with stronger improvements in reproductive health knowledge and behavior, academic achievement, financial behavior, and social networks compared to participants in one-to-one mentoring. Girls in group programs also reported reductions in experience of violence. The researchers concluded, "Group-based mentoring programs demonstrated the most promise in building [adolescent girls/young women's] protective assets and improving their [reproductive health] outcomes" (p. 131). Dubois and colleagues (2011) reported that the moderate effect sizes for one-to-one mentoring programs have not increased in over a decade despite ubiquitous best practices guidelines, highlighting the need to take a closer look at promising non-traditional program structures like group mentoring.

Another benefit to group mentoring may be its cultural relevance to minority groups. Through in-depth qualitative research, Herrera (2002) found that people of color and women were more inclined to participate (both as mentees and mentors) in group mentoring than one-to-one programs. Participants reported increased comfort in the group setting and a preference for interactions with peers and adults. Further, mentors who belong to minority groups (e.g., African-, Native-, Asian-American) are under-represented in mentoring programs (Garringer et al., 2017). Given the disparities in academic achievement and juvenile justice system involvement between youth of color and white youth, it is vital that youth intervention programs reach minority youth who have otherwise been disenfranchised by public school and justice systems (Cohen & Garcia, 2008). Group mentoring appears to be a good alternative to one-to-one mentoring for minorities.

The group structure is also resource efficient. Some experts estimate that group mentoring programs can be implemented at less than half the cost of one-to-one programs (Fountain & Arbretton, 1999; Herrera et al., 2002). This is likely due to the reduced number of mentors needed, which influences front-end costs like recruitment and training in addition to implementation expenses (Sherk, 2006). Further, one study of a successful group mentoring program targeting youth in the juvenile justice system found that society saved four times the actual cost of the program through lower recidivism compared to controls (Seroczynski et al., 2016). Garringer and colleagues (2017) found that more than half of all mentoring programs have small budgets (less than \$50,000) and that programs targeting more vulnerable youth require more funding than those working with less vulnerable populations. They also reported that increased resources lead to recruitment of more effective mentors and stronger mentor-mentee relationship quality (referred to as just “relationship quality” going forward.) Group mentoring

may provide an avenue for organizations to effectively reach young people that they may not otherwise be able to given limited resources. However, there are some concerns about the quality of the relationship in the group context because mentors must divide their attention between multiple mentees (Herrera et al., 2002; MENTOR, 2015; Sherk, 2006). More research is needed to understand at what point efficient use of resources comes at the expense of program effectiveness.

Group mentoring can occur in formal or informal settings. The school setting, in particular, may be an effective context for delivering group mentoring programs, in part because schools offer a convenient setting to reach many young people, and they have the infrastructure to support programs, youth, and families (Furlong, Sharkey, Quirk, & Dowdy, 2011). As such, nearly ten percent of youth mentoring happens in schools, but evaluations of school-based mentoring have shown mixed results (Garringer et al., 2017). Previous analyses of the school-based mentoring program examined in *this* study revealed evidence for significant gains in academic credits earned, instructional time, school support and belonging, school and home meaningful participation, caring peer relationships, prosocial peers, and problem solving compared with youth who did not receive mentoring (Kuperminc et al., 2019; Chan et al., 2019). Given these promising findings for school-based mentoring programs, it is important to examine which context-specific practices may be associated with effective programs.

Despite compelling evidence for group mentoring's effectiveness, it is not a panacea. There are wide variations in outcomes across studies (Kuperminc, 2016). For example, a randomized control trial examining the effects of school dropout prevention programs revealed no impact of group mentoring on psychological, behavioral, motivational, or academic outcomes (Dynarski, Gleason, Rangarajan, & Wood, 1998). Differences in program practices might

account for these variations in outcomes, but there is too little evidence to say definitively. To date, studies generally have been limited to main effects (overall effectiveness). Relatively little attention has been given to theoretical mechanisms (mediators) and conditions (moderators). Another possibility is that group mentoring may be more suited for addressing particular outcomes. In Kuperminc's (2016) review, there appears to be more evidence for positive effects in behavior (6 out of 7 studies that examined behavior found improvements) and academics (5 out of 6 studies) compared with emotional and psychological outcomes (2 out of 5).

The current study extends previous findings from an evaluation of a school-based group mentoring program called Project Arrive, which was funded by the Office of Juvenile Justice and Delinquency Prevention (Kuperminc et al., 2018). The quasi-experimental study investigated a small number of practice-related variables in association with theoretical mechanisms of change, namely relationship quality and group climate (discussed further in the next section). Analyses for the final report on this project concluded that group gender composition, ethnic diversity, and mentor experience were unrelated to proposed mechanisms of change, but that smaller group size was associated with some positive outcomes. The current study extends those findings by examining the associations of additional group characteristics with youth outcomes as well as theoretical change mechanisms.

2.2 Theoretical framework for group mentoring change processes

Grounded in attachment and interpersonal theories, research has revealed that the mentoring relationship is a central mechanism of change for positive youth outcomes in mentoring programs (DuBois et al., 2011; Rhodes, 2005). The evidence suggests that within the safety and support of the mentoring relationship, young people develop and engage in adaptive socio-emotional (e.g., secure attachment, self-efficacy, emotional intelligence), cognitive (e.g.,

information processing, critical thinking, self-monitoring), and identity processes (e.g., social role, meaningful behavior) (DuBois, Holloway, Valentine, & Cooper, 2002; Rhodes, Spencer, Keller, Liang, & Noam, 2006). Relationships steeped in mutuality, trust, and empathy foster these processes and lead to positive youth outcomes (DuBois & Karcher, 2014; DuBois et al., 2011). A potential strength of group mentoring is that young people have the opportunity to experience many of these relational processes both with adult mentors and peers.

Extant evidence highlights the importance of diverse social relationships in positive youth development (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004; Ryan, 2001). Hartup's (1989) theory of social competence development underscores the importance of close relationships with peers *and* adults. This theory differentiates vertical relationships (i.e., someone with more social power, such as parents, teachers, or mentors), from horizontal relationships (i.e., someone with equal power, such as peers or siblings), and stresses that young people need exposure to both types of relationships for successful social and emotional development. Group mentoring programs can promote positive experiences and model adaptive social interactions in both vertical and horizontal relationships given the close contact that occurs among multiple mentees and mentors in mentoring groups (Kuperminc & Thomason, 2013).

Positive group processes are also likely contributing to youth outcomes. Kuperminc & Thomason (2013) argue that relationships at the individual and group levels play a role in effective group mentoring, and that group processes like mutual help and support contribute to positive outcomes. This argument is supported with evidence from research on group-based psychotherapy. Yalom & Leszcz (2005) synthesized over 60 years of data on the effective change processes in group psychotherapy, and concluded that small therapy groups can operate as a social microcosm that provides a safe setting for members to receive validation and

feedback, learn new social skills through imitation, and have corrective emotional experiences. These experiences build group cohesion that fosters group acceptance, support, and trust, which in turn promote positive individual outcomes. There is compelling evidence that youth who participate in group psychotherapy experience reductions in internalizing and externalizing behaviors with large effect sizes (Flannery-Schroeder & Kendall, 2000; Rose, 1998).

Yalom describes group cohesion in group therapy as the equivalent of good therapist-client rapport in one-to-one therapy, a known common factor for client outcomes (Norcross & Wampold, 2011), and similar to findings regarding the importance of the one-to-one mentoring relationship. Karcher and colleagues (2006) postulate that group processes can be harnessed as change mechanisms for positive developmental outcomes in youth participating in group mentoring. Examples of these fundamental group processes include group cohesion, connectedness and belonging, engagement, and mutual help (helping and being helped by others; Kuperminc, 2016). In one study, youth who perceived high levels of mutual help within their mentoring group experienced increases in sense of school belonging and improved peer relationship quality (Kuperminc & Cummings, 2010). An evaluation of a school-based group mentoring program revealed that overall positive group climate (i.e., connectedness and belonging, mutual help, engagement) significantly contributed to increases in grades, meaningful participation at home, self-efficacy, and self-awareness (Kuperminc et al., 2018). Further, group climate contributed to different outcomes than relationship quality with mentors (Kuperminc et al., 2018), demonstrating added benefits of positive group processes. The use of multilevel modeling allowed researchers to understand individual and group level processes and account for the fact that individuals were nested in particular groups. More research utilizing these methods

is needed to better understand the role of group climate in outcomes as well as factors that can foster group processes.

There has been some concern that certain characteristics of group mentoring programs may result in reduced positive or even negative outcomes for youth. Sherk (2006) argued that group mentoring models cannot replace the individual level of support that one-to-one mentoring offers given mentors' divided attention among group members. Indeed, Herrera and colleagues (2002) found that participants in group mentoring programs reported less intimate relationships with mentors compared to those in one-to-one mentoring. Further, Kuperminc and colleagues (2018) found that larger group size was negatively associated with positive outcomes, but the ideal ratio of mentors to mentees is still unknown. Additional study of program practices and characteristics that increase effectiveness may help programs avoid potential downfalls of the group approach.

2.3 Best practices in group mentoring

Effective practice in mentoring is understudied. The National Mentoring Resource Center (MENTOR) has developed a *Mentoring Practice Review*, which reviews the current evidence base for several mentoring practices. An examination of the review reveals that of the 17 practices assessed, only six have been labeled as “promising” and none as “effective” (MENTOR, n.d.). The six promising practices include (1) mentor-mentee activity guidance, (2) strategies for preventing peer aggression, bullying, and victimization (3) strategies for setting and working on mentee goals, (4) support for mentor advocacy, (5) support for youth thriving, and (6) youth initiated mentoring. The other 11 practices (e.g., matching strategies informed by participant characteristics, pre-match mentor training) are labeled as having “insufficient research” to support conclusions about effectiveness. Although some of the “promising”

practices reviewed may be relevant to group mentoring, very little research has been conducted on best practices specifically in the group mentoring setting.

Empirical analysis of program practices can increase effectiveness of existing group mentoring programs. In 1990, MENTOR published the first edition of the *Elements of Effective Practice for Mentoring*. Now in its fourth edition, the publication incorporates available empirical evidence and practitioner expertise to offer guidance for mentoring programs, and has become a standard for effective youth mentoring (MENTOR, 2015). The *Elements of Effective Practice* offers standards in six domains including recruitment, screening, training, matching/initiating, monitoring and support, and closure. These standards are primarily geared toward one-to-one mentoring programs; however, some advice is offered for group mentoring. Often, this is in the form of additional considerations needed for the group model. For example, in the matching and initiating standard, MENTOR asserts that group mentoring programs must carefully consider how the recommended benchmarks can be integrated given group dynamics, stating, “the plan should address what characteristics of group members are most important...” (p. 58); however, no specific information on potentially relevant characteristics is given.

The overall goal of the *Elements of Effective Practice* is to improve mentoring relationships and program services (MENTOR, 2015), and there is emerging evidence of its effectiveness. A study of 45 mentoring programs operated by Big Brothers Big Sisters agencies found that implementation of *Elements of Effective Practice* improved program efficacy (Kupersmidt et al., 2017). Garringer and colleagues (2017) found that programs utilizing the Elements were less likely to experience major challenges related to training and program design and more likely to provide comprehensive training. The demonstrated benefit of this best

practices document further underscores the need for empirically driven best practices for group mentoring programs.

There have been a few theoretical and experience-based efforts to provide guidance on effective practices in group mentoring. Noting the proliferation of group mentoring programs at the turn of the millennium, Sherk (2006) provided an overview for designing and implementing a group mentoring program, which included guidelines for curriculum development, recruitment, screening, training, matching, monitoring, and evaluation. The Canadian Women's Foundation (2015) published the "Girls Group Mentoring Toolkit" to aid in development of group mentoring programs for girls ages 9-13. The toolkit was developed based on evaluations of 17 programs that mentored 1,400+ girls over a four-year grant period. It offers direction for several program components such as program population, needs assessment, program planning, and development. Kuperminc and Thomason (2013) also provide a brief "checklist for practitioners" regarding major program practices (e.g., program structure, recruitment and training, matching, cultural competence, and ongoing needs.) Although none of these resources provide specific, empirically-tested practices, they do offer a starting point for assessing how key practices and characteristics may contribute to positive outcomes.

2.4 A model of change: practices, change mechanisms, and outcomes

The hallmark of an effective group mentoring program is positive youth outcomes. As previously mentioned, these outcomes can be behavioral, socio-emotional, attitudinal, and/or academic; however, underlying theories of change suggest that more proximal outcomes, including 1) relationship quality and 2) group climate (DuBois et al., 2011; Karcher et al., 2006; Kuperminc, 2016; Kuperminc et al., 2018), are the "active ingredients" that contribute to change in youth outcomes. Therefore, in determining best practices, it is important to examine the

associations of practices with both proximal and distal outcomes. Theoretically, the contribution of program practices (e.g., group composition, training, curriculum) to youth outcomes (e.g., resilience, academic improvements) may be mediated by relationship quality and group climate.

Many youth outcomes often studied in the mentoring context can be thought of as building blocks for resilience, promoting the ability to overcome risk and adversity (Masten, Best, & Garmezy, 1990; Rutter, 1987). Known as resilience assets, these characteristics are external (e.g., social support, empowerment, high expectations, opportunities) or internal (e.g., values, identity, achievement, learning), and can explain youth improvements in academics and behavior (Benard, 2004; Masten, 2015). External assets likely to be impacted by group mentoring include school support, peer caring relationships, school belonging, prosocial peers, and meaningful participation at school and home. School belonging may be particularly important in the current study, as a main goal of the school-based group mentoring intervention was to prevent school dropout. Indeed, past research has revealed that increased school-belonging is associated with higher graduation rates, increased socio-emotional well-being, and decreased risky behavior in adulthood (e.g., drug use, multiple sex partners; Christenson & Thurlow, 2004; Steiner et al., 2019). Relevant internal assets include empathy, self-awareness, and self-efficacy (Healthy Kids Survey, Resilience Youth Development Module; Benard & Slade, 2009; Furlong, Ritchey, & O'Brennan, 2009; Hanson & Kim, 2007). This study focuses on self-efficacy as an indicator of internal resilience due to the robust research base demonstrating the long-term psychological and behavioral benefits of high self-efficacy (Bandura, 2010). School belonging and self-efficacy are expected to contribute to long-term improvements in academic achievement and social-emotional well-being.

In previous analysis of Project Arrive data, researchers found evidence that group climate and relationship with mentors were correlated but had differential associations with resilience outcomes (Kuperminc et al., 2018). Specifically, relationship quality with mentors was more strongly associated with external resilience assets like school belonging, whereas group climate contributed to internal assets such as self-efficacy. This evidence indicates that programs targeting internal assets may need to consider different practices than programs that focus on external assets. This study examined specific practices' associations with school belonging and self-efficacy and the potential mediational pathways through relationship quality and group climate.

2.5 Key practices in group mentoring

Practices that may be associated with group mentoring effectiveness are just beginning to be studied empirically. Existing publications on best practices for group mentoring encourage program developers to address mentee characteristics such as gender, ethnicity, behavioral problems, etc., which may affect how mentees get along with their mentors and peers (Canadian Women's Foundation & Alberta Mentoring Partnership, 2015; Kuperminc & Thomason, 2013; MENTOR, 2015; Sherk, 2006). However, the existing evidence suggests that group mentoring can be effective across a wide range of youth demographic characteristics (Kuperminc, 2016). For example, mentee gender and group ethnic diversity have not been found to contribute to relationship quality, group climate, or other related youth outcomes; neither do mentee demographic variables moderate associations between mentoring and youth outcomes (Kuperminc et al., 2018; Van Dam et al., 2018). Further, several studies have revealed that matching youth to mentors based on mentor gender or race is unrelated to improved outcomes (DuBois et al., 2011; Sanchez, Colon-Torres, Feuer, Roundfield, & Berardi, 2014).

There is some research that suggests a risk of grouping young people with behavior problems (Gifford-Smith, Dodge, Dishion, & McCord, 2005; Rorie, Gottfredson, Cross, Wilson, & Connell, 2011). This risk, known as peer contagion, is the phenomenon in which youth exposed to peers with behavior problems begin to demonstrate similar problems (Dishion & Dodge, 2005). As such, several mentoring practice publications warn against the concentration of youth with behavior problems within one mentoring group; however, in the first study designed to examine the effects of this practice in the group mentoring context, Joseph (2018) found that groups with higher behavioral problem averages actually experienced marginally stronger positive program effects than those characterized by fewer behavioral problems. These studies reveal that practices based on mentee characteristics may not be as important to program effectiveness as existing practice manuals suggest. It appears that group mentoring programs can work well with a broad range of youth; however, relatively little is known about the program practices and structures that lead to the best youth outcomes.

Mentor Training. Some mentor characteristics are linked to improved relationship quality and group climate. For example, mentors with experience in youth development or education may be better equipped to develop relationships with young people and meet specific program goals such as improving social skills or academics (MENTOR, 2015; Van Dam et al., 2018). Kuperminc and Thomason (2013) also recommend that mentors with the most experience be matched to groups with high needs youth; however, in a recent study, mentor experience did not significantly contribute to relationship quality or group climate (Kuperminc et al., 2018). Evidence regarding mentor training is less equivocal. MENTOR (2015) defines benchmarks for adequate mentor training as at least two hours of pre-program training that covers everything from program requirements and goals/expectations to relationship development and ethical

issues. Mentors who have received formal training seem to be better prepared for their mentoring roles. In one large scale random assignment impact study of seven one-to-one mentoring programs, researchers discovered that mentors who attended initial training had higher quality relationships with mentees (Herrera, DuBois, & Grossman, 2013). Further, there is evidence suggesting that mentors who receive initial and ongoing training report more satisfaction in the mentoring relationship, and increased match longevity (Kupersmidt et al., 2017; Martin & Sifers, 2012), thus increasing the likelihood of positive and meaningful social experiences that build external resilience. This evidence suggests that formal training attendance is likely an important requirement for mentors and contributes to positive relationship quality. The current study investigated the mediational role of mentor-mentee relationship quality and group climate in the associations of mentor training attendance and youth resilience assets (i.e. school belonging and self-efficacy).

Co-mentoring. The use of co-mentoring is beginning to emerge as a central practice in group mentoring. In his practice manual, Sherk (2006) recommends that programs assign at least two mentors per group to decrease cancellations and help manage group dynamics. There is some evidence that a supportive working relationship among co-mentors is associated with better youth outcomes (Marshall, Lawrence, & Peugh, 2013). Co-mentors may also provide youth an opportunity to see adults modeling positive communication and problem-solving skills. Kuperminc and Thomason (2013) propose matching mentors who complement one another's experience and expertise. Pairing co-mentors with complementary skills could theoretically increase youth's exposure to and experience with different disciplines and related resources. For example, in Project Arrive, some mentors were paired with a co-mentor from another department within the school (e.g., academic counselor with wellness therapist) or with community partners;

however, no studies have examined how this practice may relate to mechanisms of change or overall effectiveness. This study examined how interdisciplinary co-mentors might contribute to school belonging and self-efficacy through increased relationship quality with mentors who have access to different school resources.

Relational and Instrumental Group Interactions. Another key practice consideration is the focus of interactions during mentoring sessions. Karcher & Nakkula (2010) argue that relationship styles, which emerge in the mentoring context, are created by patterns of interactions that occur over time and can influence positive youth outcomes. These interactions are typically classified as either relational or instrumental, and vary based on program goals, but both types of interactions can occur in the same group. Programs that emphasize relational development may focus more on topics like peer and family relationships and conflict resolution, which promote relational skills, whereas programs that target instrumental goals may focus more on topics such as academic achievement and career planning (Karcher & Nakkula, 2010). Some mentoring experts advocate for more relational activities such as open discussions and unstructured time (Kuperminc & Thomason, 2013; Sherk, 2006); however, there is some evidence to suggest that including structured task- or skill-based activities leads to better outcomes (DuBois et al., 2011; Jent & Niec, 2009; Rorie et al., 2011). Herrera and colleagues (2000) found that both relational and instrumental activities were associated with positive relationship development. In the group context, activities that build group cohesion such as those requiring teamwork, group discussions, and group rituals may be helpful in promoting a safe and connected context in which youth can develop internal resilience. This study investigated the role of interaction focus (i.e. relational and instrumental) in development of positive group climate and relationship quality and subsequent self-efficacy and school belonging.

Mentor-to-mentee Ratio. It is also important to examine the structural context in which many of these practices occur. Generally, guidelines suggest a 1:4 mentor to mentee ratio in mentoring groups, and limiting group size to no more than eight people total (including mentors; MENTOR, 2015; Sherk, 2006). Indeed, Kuperminc and colleagues (2018) found that smaller groups reported higher relationship quality and more positive group climate; however, associations between mentor-to-mentee ratio and youth outcomes have not been empirically tested. Given the draw of group mentoring as a resource-efficient alternative to one-to-one mentoring, in order to structure groups effectively it is important to understand the point at which relationship quality and positive group climate begin to decline as a result of group size and structure. The current study tested the associations among mentor-to-mentee ratio, group climate, relationship quality, and subsequent contributions to self-efficacy and school belonging.

Mentor training, interdisciplinary co-mentors, interaction focus, and mentor-to-mentee ratio are certainly not the only practices potentially relevant to relationship quality, group climate, and youth outcomes in group mentoring programs; however, these practices provide an important starting point as they have been discussed in the existing literature, but have yet to be empirically tested. Whereas the use of quantitative analysis can begin to shed light on pathways from practices to youth outcomes, incorporating qualitative data can provide a richer context for understanding how these practices and presumed change mechanisms contribute to program effects.

2.6 Mixed methods research

Given the paucity of empirical research on group mentoring practices, a mixed methods design supports a comprehensive examination of key practices that may contribute to change mechanisms and youth outcomes. A mixed methods design not only combines qualitative and

quantitative data collection, it also adopts an inclusive and integrated approach to research (Tashakkori & Teddlie, 2003). It allows researchers to explore the complexity of a problem or situation from individual participants' perspectives (qualitative) and examine important associations among variables (quantitative) (Creswell & Plano Clark, 2018). Mixed methods are especially important in emerging research contexts where experts have yet to understand the nature and complexity of study variables, as is the case with group mentoring.

There are several approaches to mixed methods research in community settings. Core distinctions of mixed methods design taxonomies include whether greater emphasis is placed on qualitative or quantitative data, the timing of data collection, and whether one type of data is used to inform collection of the other (Campbell, Shaw, & Gregory, 2017). Decisions about design guide the way researchers triangulate both types of data to answer research questions (Creswell & Plano Clark, 2018).

In the social science literature, mixed methods are often used to reflect the diversity of thought, experience, and perspective that exists among individuals and within communities (Greene, 2007). Mixed methods are particularly suited for program evaluation research, which frequently aims to accomplish several objectives using different types of data relevant to various stakeholders (Creswell & Plano Clark, 2018). For example, program funders may be interested in statistical information that provides conclusive evidence for effectiveness, whereas program participants may be more interested in the individual experiences of others. Further, program administrators, developers, and researchers aiming to gain a comprehensive understanding of effective practices need both types of data to guide intervention and theory development.

2.7 Study Aims

The purpose of this longitudinal, mixed methods study was to begin to fill a gap in the literature regarding empirically supported best practices for group mentoring programs. Utilizing quantitative and qualitative data from a school-based group mentoring program in the western United States (Project Arrive), the study examined four group characteristics that may contribute to building relationships and fostering positive group climate in group mentoring programs. Previous analyses found that relationship quality and group climate were associated with improvements in resilience assets (i.e. school belonging and self-efficacy) and academic outcomes (i.e. grade point average and academic credits; Kuperminc et al., 2018). The current study attempted to extend those findings by examining practices that have direct or indirect (mediated) associations with these outcomes.

Data analysis included three sources of data about Project Arrive mentors and mentees, and analyses were conducted in two separate studies. Study 1 used survey data from mentors ($N = 40$) and mentees ($N = 114$) to assess associations among group characteristics, youth self-efficacy and school belonging, and the potential mediational role of group climate and mentor-mentee relationship quality. Study 1 also included analysis of qualitative data obtained via focus groups with mentors and mentees. Study 2 contained analysis of school administrative records ($N = 238$) of all Project Arrive mentees as well as mentor survey data to assess the associations among group characteristics, grade point average, and earned academic credits, and whether group cohesion played a mediational role in these associations. Overall, the goal was to gain a comprehensive, scientifically-based understanding of program practices that may directly or indirectly contribute to effective programming and positive youth outcomes.

Drawing on theory, previous mentoring studies, and preliminary findings, this study focuses on important group characteristics (i.e. mentor training, interdisciplinary co-mentors, interaction focus, and mentor-to-mentee ratio) that may contribute to program effectiveness through the development of positive group climate and mentee-mentor relationships. The aims of Study 1 were as follows:

Aim 1.1 To examine whether mentor-to-mentee ratio, mentor training attendance, interdisciplinary co-mentors, and instrumental and relational interaction focus were associated with changes in youth reported self-efficacy and school belonging. Aim 1.2 To assess whether group climate and mentor-mentee relationship quality mediated these associations. Aim 1.3 To gain a deeper understanding of mentors' and mentees' experiences of group characteristics, group climate, mentor-mentee relationship quality, and their potential connections with positive youth outcomes through analysis of qualitative data.

There were no a priori hypotheses regarding direction or strength of quantitative associations due to the lack of and/or equivocality of existing research. Neither were there a priori hypotheses for the qualitative data given that the purpose of gathering this information was to assess convergence with quantitative data and gain deeper insight into experiences of mentors and mentees and contexts in which study variables occurred.

The aims of study 2 were as follows:

Aim 2.1 To examine whether mentor-to-mentee ratio, mentor training attendance, interdisciplinary co-mentors, and instrumental and relational interaction focus were associated with changes in school district reported grade point average and earned academic credits. Aim 2.2 To assess whether group cohesion mediated these associations. Again, no a priori hypotheses were made given the lack of existing research on best practices in group mentoring.

3 Chapter 3: Methodology

Study 1 used a concurrent triangulation design, wherein quantitative and qualitative data were collected separately but in the same phase of research (Campbell et al., 2017). The two types of data were collected independently and did not influence the collection of the other. Survey and focus group questions targeted the same constructs (i.e., mentee and mentor experiences of the group mentoring program); however, focus groups targeted experiential insights that were beyond the scope of the general survey scales. Qualitative data from focus groups were used to examine the experiences of program participants and support or refute quantitative findings. The quantitative and qualitative data were gathered in two cohorts, which included pre- and post-program mentee surveys, post-program mentor surveys, and focus groups with mentees and mentors held near the end of program participation.

Study 2 was quantitative only. In addition to mentor survey data (mentee survey data were not used in Study 2), the study utilized academic data provided to the researchers by the school district records office, and included information regarding student grade point averages (GPA) and academic credits from eighth and ninth grades for all participating students.

3.1 Program Description

Project Arrive is a school-based group mentoring program that targets ninth graders at risk for dropping out of high school. An early warning indicator system (EWI) used GPAs and attendance data from students' eighth grade year to determine eligibility for the program. Students with GPAs of less than 2.0 and/or attending less than of 87.5% instructional time during the academic year were considered to be at high risk of school dropout, and therefore, eligible to participate in Project Arrive. Program administrators invited students identified through the EWI system to participate in Project Arrive as an intervention designed to promote resilience assets

that would lead to improvements in academics and behavior. All EWI-identified students attending high schools that offered Project Arrive during the academic years of 2014-2015 and 2015-2016 were invited to participate in the study. A total of 238 students participated in Project Arrive. In the first cohort, 67% of eligible students participated in Project Arrive. In the second cohort, 48% of eligible students participated; however, one school was only able to offer the program to less than one third of eligible students due to lack of resources. Students who chose to participate and those who chose not to participate did not differ in 8th grade attendance, GPA, credits earned, age, or sex. However, participants were more likely to be Hispanic ($\chi^2(1) = 4.36$, $p < .05$) and less likely to be Asian American/Pacific Islander ($\chi^2(1) = 5.80$, $p < .05$) than program eligible non-participants.

Mentoring groups of approximately six to eight students met with mentors for 50-minute weekly sessions during the school year. Some groups were structured by demographics including gender and English language learners. Groups met during the school day outside of core curriculum hours. All mentors were volunteers, and most were school staff including academic counselors, wellness center employees, administrators, security personnel, etc. Others were volunteers from local community organizations. A program coordinator, employed by the district, provided mentors with an initial four-hour training that covered topics such as recruitment, curriculum, and managing group dynamics. The program coordinator also provided ongoing support through monthly check-in meetings with mentors and a website that provided information about recruitment, curriculum, and additional mentoring resources. The curriculum was based on Tuckman & Jensen's (2010) theory of small group development, which focuses on the developmental trajectory of groups and includes five stages: forming, storming, norming, performing, and adjourning. The curriculum was flexible and provided suggested activities (e.g.,

Developing a Sense of Self, Realistic Goal Setting, Relationships and Boundaries) and discussion topics (e.g., peer pressure, identity, career) that were stage-appropriate and meant to help build group identity, cohesion, and progress toward objectives (see <http://sites.gsu.edu/project-arrive/>). Mentors were encouraged to collaborate with mentees to decide which activities were most appropriate for program and group goals.

To monitor implementation for consistency with overall program goals, the program coordinator collaborated with researchers to design and implement a four-hour mentor training at the beginning of each school year. All mentors were encouraged to attend; however, only new mentors were required to complete the training. Of the mentors in the survey sample, 40% attended initial training during the year of the survey and 25% indicated that they had received training in a previous year. Mentors who did not attend the training met with the program coordinator before beginning with their groups. The program coordinator also provided ongoing support through monthly meetings with mentors at each participating school, regular email and telephone communication to help with logistical planning and troubleshooting, and updating a program website with curriculum material, information on group mentoring, and other resources.

Although several steps were taken to assess program fidelity (e.g., attendance and activity logs, weekly check-ins), the flexible curriculum and volunteer status of mentors made it difficult to obtain consistent records. During the second cohort, each school was assigned a paid program facilitator (who was also a mentor) to improve record keeping; however, the facilitators ended up focusing more heavily on student recruitment and survey completion. The existing information on program fidelity was from surveys that mentors completed at the end of the program.

3.2 Study 1

3.2.1 *Participants*

The mentee sample for Study 1 ($N = 114$) was taken from a larger evaluation of Project Arrive funded by the OJJDP. The original design was quasi-experimental and included demographically matched comparisons as well as academic records of all district ninth graders who met the EWI criteria. Since the current study focuses on program characteristics, only those who participated in Project Arrive were included in the sample. During the two years of data collection, 238 ninth graders participated in Project Arrive at five schools; however, only about half of all students that took part in PA returned parent consent and assented to participate in the study and one school did not participate in data collection. Thus, although the average size of mentoring groups was six students per group, only an average of 3.6 students per group participated in the study.

Participants attended schools with predominantly low-income students (72% to 79% of students qualified for free or reduced-price lunch). Participating schools served a diverse student body with many Latinx (19% - 62%) and African American (14% - 21%) students. Students included in the sample were predominantly female (55.3%), low-income (75%), and identified as Latinx (58.1%), Asian/Pacific Islander (14.3%), or Black (12.4%) (see Table 1.01). The survey sample represented 32 of the 41 Project Arrive mentoring groups.

Table 3.1 Baseline characteristics of Project Arrive students ($N = 114$)

	Means (<i>SD</i>)	Frequency (%)
<i><u>Participant Characteristics</u></i>		
Sex		
Male		53 (46.5)
Female		61 (53.5)
Race/Ethnicity		
Latinx/Hispanic		64 (56.1)
Asian/Pacific Islander		15 (13.2)
Black		20 (17.5)
Other		3 (2.6)
Caucasian/White		4 (3.5)
Age	14.12 (0.75)	
Unstably housed		13 (12.4)
Low income		75 (71.4)

All mentors at participating schools were asked to complete an end of the year survey. In the first cohort, 19 of 29 (65.5%) mentors completed the survey and 21 out of 43 (48.8%) mentors completed the survey in the second cohort. Response rate was likely affected by the timing of the survey, which was sent out at the end of the year- a busy time for school personnel. During survey data collection in the second cohort, the program coordinator was in the process of transitioning to a new job and was unable to follow up with mentors as in the previous year. The mentor survey sample ($N = 40$) represented 30 groups, was mostly female (60%), and included wellness program employees (35%), academic advisors (17.5%), other school staff (22.5%), and community volunteers (17.5%) (see Table 1.02). Wellness program employees included social workers, licensed therapists, and family liaisons.

Table 3.2 Mentor Survey Sample Demographics and Group Characteristics

	Means (<i>SD</i>)	Frequency (%)
<u>Mentor characteristics (<i>N</i> = 40)</u>		
Sex		
Male		16 (40.0)
Female		24 (60.0)
Position		
Wellness staff		14 (35.0)
Academic advisor		7 (17.5)
School administrator		3 (7.5)
Other school staff		9 (22.5)
Community member		7 (17.5)
<u>Group characteristics (<i>k</i> = 31)</u>		
Mentors who attended training		26 (65)
Interdisciplinary mentors		21 (52)
Group size	7.42 (1.91)	
Ratio greater than 1:4		25 (78)

Selected mentees and mentors also participated in focus groups conducted in March of each academic year. The program coordinator selected groups based on scheduling availability. Across the two cohorts, mentees from four groups (*N* = 26) representing two schools participated in focus groups. A “newcomers” group comprised of youth who recently arrived to the U.S. from Central and South America participated in focus groups in each cohort. These focus groups were conducted in Spanish. Six focus groups were conducted with mentors from four schools across the two cohorts (*N* = 36). Unfortunately, transcripts for one mentor focus group and one mentee focus group from the second cohort were lost; therefore, the final sample included 31 mentors (five groups) from four schools and 20 mentees (three groups) from two schools.

3.2.2 *Group Characteristics*

Mentoring groups typically met 25-30 times during the academic year with limited cancellations (76.9% of groups had less than two cancellations throughout the year). Mentors reported somewhat inconsistent mentee attendance, with only 66.7% of mentors reporting full attendance for more than half of the sessions. Despite variable attendance, mentors reported high

levels of group cohesion, $M = 3.92$, $SD = 1.02$ (1-5 scale). Mentees also viewed their groups as generally positive with high levels of group climate, $M = 3.22$, $SD = .57$ and relationship quality with mentors, $M = 3.39$, $SD = .52$ (1-5 scale). Most mentors ($n = 35$; 87.5%) reported using the curriculum materials provided by the program, and 71% reported using them for at least half of their group sessions. Mentors reported using various activities including ice-breakers (100%), academic check-ins (97.5%), games (97.5%), closing reflections (97.5%) and field trips (92.5%). Mentors also facilitated group discussions, which covered various relational and instrumental topics. The most frequent topics (addressed in 50%+ of the sessions) included academic achievement (92.5%), goal setting (85%), peer relationships (80%), transition to high school (70%), and family relationships (65%). Nearly all mentors (97.5%) reported collaborating with mentees to decide on group activities, with 57.5% reporting that decisions were shared evenly between mentors and mentees.

3.2.3 Procedures

All ninth graders identified through the EWI system in participating schools were invited to participate in Project Arrive. Students participating in the program were then invited to join the study with the exception of those at one school where data were not collected. In order to be enrolled in the study, mentees needed to obtain parental consent and provide informed assent, which informed participants of study procedures and the risks and benefits of participation.

Project Arrive mentees completed pre-program surveys in the fall and post-program surveys in the spring of their ninth grade year. Mentees also completed a brief survey in December (mid-year) assessing group processes, relationship quality, and program satisfaction, which were also added to the post-program survey. All surveys were administered with tablets connected to a secure internet-based platform, and employees of a private research consultation

firm supervised survey administration. Mentors completed surveys online via a secure web link, which was emailed to them at the end of the academic year.

Mentees and mentors also participated in focus groups held in March of each year. Researchers conducted the mentor focus groups during lunch periods. Mentee focus groups were held during their normal group mentoring meeting time and snacks were provided. All focus groups were recorded and transcribed. Researchers transcribed data using qualitative analysis software, and developed a codebook based on the themes that emerged from the data.

3.2.4 Measures

Mentee surveys were constructed with widely used self-report measures that have strong evidence of reliability and validity. Items from the California Healthy Kids Survey (Hanson & Kim, 2007) assessed resilience assets (see Appendices C-E.) Assessments of relationship quality and group climate (mentor-mentee connectedness, group cohesion, mutual support) were adapted from measures developed for previous group mentoring studies, which demonstrated adequate reliability and showed significant associations with outcomes similar to those examined in this study (Kuperminc, 2012). Mentor surveys assessed formal training, group climate, and program structure (see Appendix F.)

Group Characteristics

Demographics. Mentees answered questions assessing demographics including age, gender, and socio-economic indicators such as housing and eligibility for free or reduced-price lunch.

Training attendance. Mentors responded to the following item, “Did you attend the 4-hour ‘Group Mentor Boot Camp’ in September?” Responses included, “yes,” “no,” and “I attended the training in a previous year.” Mentors who responded “yes” or “I attended the

training in a previous year” were coded as having received formal training.

Interdisciplinary co-mentors. This was garnered from a roster of all mentors ($N = 72$), which included mentor job titles. This variable was dichotomized such that groups with two mentors from different school departments were coded as 1 and others as 0.

Mentor-to-mentee ratio. Number of mentors and mentees in a given group were identified to ascertain mentor-to-mentee ratio. The ratio was computed by dividing the number of mentors in a group by the number of mentees.

Interaction focus. Mentors were asked to identify how often they covered four instrumental focused topics (i.e. transitioning to high school, goal setting, academic achievement, and jobs/career planning) and three relational focused topics (i.e. conflict resolution, peer relationships, and family relationships). Ratings were given on a five point Likert-type scale (1 = *Never*; 5 = *Every session*). Scores for the four instrumental and three relational topics were averaged, respectively, creating two separate variables: instrumental focus ($\alpha=.68$) and relational focus ($\alpha=.84$).

Outcome Variables

Group climate. Participants completed an 11-item measure assessing perceptions of overall group support. Items assessed mentee feelings of connectedness and belonging (e.g., “Kids in this group care about each other”), mutual help (e.g., “How much did the group help you to deal with everyday problems?”), and engagement (e.g., “When you are with your group, how much do you enjoy the activities you participate in?”). Responses were given on a 4-point Likert scale (*Not a lot* = 1; *Very much* = 4). This measure of overall group climate demonstrates adequate reliability in this study ($\alpha=.90$) and has been used in previous youth mentoring research (Kuperminc, 2012).

Mentor-mentee relationship quality. Mentees completed four items, rating statements about how they feel about their mentor/group leader (e.g., “My mentor(s) care about me.”) on a 4-point scale from (1 = *Not at all true*; 4 = *Very much true*). This measure has previously been used to assess mentor-mentee relationships in a group setting (Kuperminc, 2012) and demonstrates adequate reliability in this study ($\alpha=.85$).

Resilience assets. Mentees completed measures assessing their perceptions of internal and external resilience assets based on the Resilience Youth Development Module of the California Healthy Kids Survey- a self-report measure assessing student health strengths and risks (Benard, 2004). *School-belonging* ($\alpha = .78$ at both pre- and post-test) included five items assessing students’ sense of connection to their school, safety, and happiness at school (e.g., “I feel like I am part of this school.”) Responses were given on a 5-point scale (1= *Strongly disagree*; 5 = *Strongly agree*.” *Self-efficacy* ($\alpha = .71$ at pre-test and .75 at post-test) included four items about confidence in abilities to work with different people, to work out problems, and to complete tasks (e.g., “I can do most things I try,” “I can work out my problems.”) Participants rated these items on a 4-point scale from (1 = *Not at all true*; 4 = *Very much true*).

Qualitative Data Collection

Researchers conducted focus groups with mentees and mentors, which followed a semi-structured interview guide. The guide contained 8-10 broad, open-ended questions such as “Tell us about your group,” “What has it been like working with a co-mentor?” (mentors), and “How does your group work together?” (mentees). Additional follow-up questions were included to spur conversation and obtain more details about broader topics. Interviews focused on experiences of small group development and relational processes, group characteristics, and challenges and barriers to meeting program goals. See Appendices G and H for interview guides.

3.2.5 *Data Analysis Plan*

Quantitative

Study 1 assessed the roles of group climate and relationship quality in the associations between group characteristics and resilience assets. Group characteristics (i.e., mentee-to-mentor ratio, interdisciplinary co-mentors, interaction focus [instrumental and relational], and mentor training) were the independent variables (IVs). Self-efficacy and school belonging were the dependent variables (DVs), and relationship quality and group climate were the mediators.

Preliminary analyses were conducted to assess missing data patterns and attrition across groups. Utilizing MPlus (Muthen & Muthen, 1998-2017), multiple imputation was used to impute missing data. Given the clustering of participants within mentoring groups and subsequent violation of the assumption of independence of residuals, multilevel analyses was conducted such that youth participant variables (Level 1) were nested within group variables (Level 2). This enabled estimation of intraclass correlations for each outcome variable to assess the extent to which group membership was linked to changes in mediators and DVs. Researchers have recommended this approach for other small group and community interventions (Barile, In press; Sterba, 2017).

To minimize between- and within-group bias and adjust for unbalanced group sizes, multilevel structural equation modeling (MSEM) was used to examine the role of the of IVs in predicting ratings of relationship quality and group climate (averaged across mid- and post-test), and change from pre- to post-test in self-efficacy and school belonging (Preacher, 2015). Given that relationship quality and group climate are theoretical change mechanisms, these variables were tested as mediators. The small overall sample size and small cluster size necessitated separate models for each IV to maximize power (Muthen & Asparouhov, 2008). In addition, due

to the limitations of smaller groups and sample size in SEM, and in an effort to build the more complicated SEM models, the researcher ran separate ANCOVA models for each predictor and outcome variable. For these analyses, mentor-to-mentee ratio was dichotomized at 1:4, and both instrumental and relationship focus were dichotomized at “50% of the time” or more. Mentee gender and pre-intervention school belonging and self-efficacy were covariates.

Next, the researcher constructed twenty 2-1-1 multilevel mediation models wherein the IVs were assessed at the group-level (2-), and mediators as well as DVs were assessed at the individual level (1-1). These models tested the hypotheses that group characteristics (as Level-2 antecedents) influence the Level-1 mediators (group climate or relationship quality), which then affect the Level-1 outcome variables (school belonging and self-efficacy). Mediation analyses were conducted in three steps (Zhang, Zyphur, & Preacher, 2009). Step one assessed associations between the IVs and DVs, the total effect in the mediation model. Step two tested whether the IVs significantly contributed to the variance in mediator variables at the between group level. Finally, step three assessed whether mediators were significantly associated with the DVs when both IVs and mediators were used as predictors in the models, which uncovered indirect effects. As recommended by Preacher and Hayes (2008), all paths were quantified with unstandardized regression coefficients. Because the variance in the IVs occurred only at the between-group level, direct and indirect effects can only be interpreted at the group level with the understanding that the IVs impact Level-1 outcomes in the sense that individuals belong to groups differentiated by group characteristics (Preacher, Zyphur, & Zhang, 2010; Zhang et al., 2009). See Table 1.03 for specific study models.

Table 3.3 Description of Structural Equation Models for Study 1

Model	Group Characteristic (Level 2)	Mediator (Level 1)	Resilience Asset (Level 1)
1 2	Mentor-to-mentee ratio	Group climate	Self-efficacy School belonging
3 4	Interdisciplinary mentor	Group climate	Self-efficacy School belonging
5 6	Instrumental focus	Group climate	Self-efficacy School belonging
7 8	Relationship focus	Group climate	Self-efficacy School belonging
9 10	Mentor training	Group climate	Self-efficacy School belonging
11 12	Mentor-to-mentee ratio	Relationship quality	Self-efficacy School belonging
13 14	Interdisciplinary mentor	Relationship quality	Self-efficacy School belonging
15 16	Instrumental focus	Relationship quality	Self-efficacy School belonging
17 18	Relationship focus	Relationship quality	Self-efficacy School belonging
19 20	Mentor training	Relationship quality	Self-efficacy School belonging

Qualitative

Thematic analysis was used to identify, analyze, and report patterns that arose from mentee and mentor focus groups. The analysis consisted of transcribing focus group recordings, reading the data several times, generating initial codes, searching for themes, and organizing, categorizing, and describing identified themes (Braun & Clarke, 2006). Throughout the process of identifying and analyzing themes, the researcher maintained the basic assumption that experience is subjective and individual. A “theme” was identified as a pattern of responses relevant to research questions that was expressed across multiple participants (Braun & Clarke, 2006).

3.2.6 *Integration of Qualitative and Quantitative Data*

Aligned with the concurrent triangulation mixed-methods design, qualitative and quantitative data were analyzed separately first, then integrated (Creswell & Plano Clark, 2018). The researcher integrated the data to gain a comprehensive, validated, and confirmed view that expands understanding of effective practices in group mentoring. Quantitative and qualitative results were compared to illuminate converging and diverging findings. As outlined by Creswell & Plano Clark (2018), the researcher (1) explored common concepts between the two types of data, (2) examined areas of confirmation, disconfirmation or expansion, and (3) developed interpretations in light of integrated data.

3.3 Study 2

3.3.1 *Participants*

Academic records for all 238 students participating in Project Arrive, representing 41 mentor groups, were obtained from the school district's records office. Most participants identified as male and either Latinx/Hispanic (53%), Black (23%), or Asian/Pacific Islander (11%) (see Table 2.01). The mean age of participants was 14.43 and there was an average of approximately six mentees per group. On average, mentors reported high group cohesion by the end of the year ($\bar{x} = 4.10$, $sd = .89$). As expected with the transition to high school, average GPA declined from 8th ($\bar{x} = 2.02$, $sd = .74$) to 9th grade ($\bar{x} = 1.87$, $sd = .99$). Average academic credits earned remained roughly the same from 8th ($\bar{x} = 53.93$, $sd = 11.80$) to 9th grade ($\bar{x} = 53.47$, $sd = 20.94$), but with more variability in 9th grade.

Table 3.4. Mentee academic records sample demographics (N = 238)

	Means (<i>SD</i>)	Freq. (%)
<u><i>Participant Characteristics</i></u>		
Sex		
Male		134 (56.5)
Female		104 (43.5)
Race/Ethnicity		
Latinx/Hispanic		128 (53.4)
Asian/Pacific Islander		26 (10.9)
Black		55 (23.0)
Other		8 (3.3)
Caucasian/White		10 (4.2)
Declined to report race		11 (5.0)
Age	14.43 (0.45)	
Unstably housed*		35 (13.6)
Youth in foster care in 8 th grade		3 (1.3)
<u><i>Group Characteristics</i></u>		
Group size	6.75 (1.95)	
Number of mentor groups		41 (100)

*Includes those housed in a hotel or shelter and those temporarily doubled up

3.3.2 Procedure

Eligibility for participation in Project Arrive was the same as Study 1. Internal review boards for Georgia State University and the school district approved a waiver of informed consent for deidentified (except for group identifiers) academic records from eighth and ninth grades for all Project Arrive participants (N = 238). The school district's records office provided participant data.

3.3.3 Measures

Group characteristics (i.e. mentor-to-mentee ratio, mentor training attendance, interdisciplinary co-mentors, and interaction focus) were measured in the same way as Study 1. Mentor-reported group cohesion was assessed in the end-of year mentor survey by one item: "Please rate the overall sense of cohesion that characterizes your group at this point in the year." Responses were given on a 1 ("Not at all cohesive") to 5 ("Very cohesive") scale. Youth

outcomes, grade point average (GPA; 4.0 scale) and academic credits earned, were measured with student academic records from eighth and ninth grades. In order to receive academic credit for a course, students needed to earn a grade of “D” or higher. To be considered on track toward graduation, students needed at least 25 credits per semester. Pre-intervention academic credits and GPA were calculated by averaging fall and spring semesters of eighth grade. Academic credits and GPA from spring semester of the intervention year (9th grade) was used for post-intervention GPA.

3.3.4 Data Analysis

Similar to Study 1, multilevel structural equation models (MSEM) were constructed to examine the associations between group characteristics, group cohesion, and academic outcomes. Missing data patterns were assessed to uncover potential bias in model estimates. As in Study 1, separate ANCOVA models were constructed for each predictor and outcome variable. Mentor-to-mentee ratio was dichotomized at 1:4. Both instrumental and relational interaction focus were dichotomized at “50% of the time or more.” Mentee gender and pre-intervention GPA and credits were covariates.

Ten 2-2-1 MSEM models were used to assess the associations between group characteristics (Level 2) and GPA and credits (Level 1), and whether group cohesion (Level 2) mediated these associations. See Table 2.02 for Study 2 models.

Table 3.5 Description of Structural Equation Models for Study 2

Model	Group Characteristic (Level 2)	Mediator (Level 2)	Resilience Asset (Level 1)
1 2	Mentor-to-mentee ratio	Group cohesion	GPA Academic credits
3 4	Interdisciplinary mentor	Group cohesion	GPA Academic credits
5 6	Instrumental focus	Group cohesion	GPA Academic credits
7 8	Relationship focus	Group cohesion	GPA Academic credits
9 10	Mentor training	Group cohesion	GPA Academic credits

4 Chapter 4: Results

4.1 Study 1

4.1.1 Preliminary Quantitative Analyses

Missing data. Study variables had 3.5 to 27.2% missing data. Little's Missing Completely at Random (MCAR) test was not significant, which suggested that the missing data were MCAR, $\chi^2(79) = 88.09, p = .23$. Multiple imputation was used in MPlus Version 8.1 to create 30 datasets (Bodner, 2008; Graham, Olchowski, & Gilreath, 2007) with complete data for the full sample of 114 participants. Given that missing participant data were likely due to school absence, the multiple imputation model included truancy data from the district as well as all other study variables.

Descriptives. Means and standard deviations of Level 2 study measures are displayed in Table 1.04 and Level 1 in Table 1.05. Average mentor-to-mentee ratio was approximately 1:3 (.30), which is lower than the recommended 1:4 ratio, and mentors reported engaging in more instrumental interactions than relational, $t(113) = 4.39, p < .01$. Mentees' reports of group climate and relationship quality were generally positive (i.e., mean above 3.0 on 4.0 point scale).

Participants' reported self-efficacy increased from pre- to post-intervention, $t(113) = -2.84$, $p < .01$. Mentees' reported school belonging remained stable from pre- to post-intervention, $t(113) = -.97$, $p = .33$.

Correlations. Tables 1.04 and 1.05 also provide correlations among the group (Level 2) and individual (Level 1) variables. Interdisciplinary co-mentor teams were more likely to have attended training and reported a more instrumental and less relational focus. Mentors who attended training were less likely to engage in relational interactions. Mentor-to-mentee ratio was not significantly correlated with any other group characteristics measured in this study. At the individual level, participant-reported group climate had a strong and positive correlation with mentees' reports of relationship quality, moderate and positive correlations with post-intervention self-efficacy and school belonging, and a small positive correlation with pre-intervention school belonging. There were small positive correlations between relationship quality and pre- and post-intervention school belonging. School belonging and self-efficacy were positively correlated at both pre- and post-intervention time points, and pre-intervention self-efficacy and school belonging were positively correlated with the post-intervention measures. Participant sex was not correlated with any other individual level study variables.

Table 4.1 Correlations among Level 2 variables ($k = 31$)

	1	2	3	4	5
1 Mentor-to-mentee ratio	--				
2 Instrumental focus	-.19	--			
3 Relational focus	.11	.43	--		
4 Mentor training attendance	-.03	-.31	-.36	--	
5 Interdisciplinary co-mentors	-.12	.25	-.44	.35	--
Mean	.30	3.46	3.09	--	--
Standard Deviation	.11	.81	.80	--	--

Note: bold = $p < .05$

Table 4.2 Correlations among Level 1 variables (N = 114)

	1	2	3	4	5	6	7
<u>Change Mechanisms</u>							
1 Group climate	--						
2 Relationship quality	.61	--					
<u>Outcome variables</u>							
3 Self-efficacy (Post)	.31	.10	--				
4 School belonging (Post)	.27	.22	.22	--			
<u>Covariates</u>							
5 Self-efficacy (Pre)	.05	.07	.38	.10	--		
6 School belonging (Pre)	.22	.21	.19	.58	.26	--	
<u>Demographics</u>							
7 Sex	.03	.02	-.05	-.06	-.05	-.14	--
Mean	3.22	3.39	3.13	3.48	2.94	3.42	--
Standard Deviation	.56	.57	.63	.94	.63	.95	--

Note: bold = $p < .05$

Mean differences. Group characteristics were dichotomized to test mean differences of group climate, mentor-to-mentee relationship quality, school belonging, and self-efficacy at high and low levels of each group characteristic. In line with previous practice recommendations (MENTOR, 2015), mentor-to-mentee ratio was split at 1:4. Both instrumental and relational interaction focus were dichotomized at 50% of the time or more (high). Formal training attendance and interdisciplinary roles of mentors were yes (high)/no (low) items. Covariates were participant sex and pre-intervention measures of outcome variables. Table 1.06 provides means and standard deviations of each outcome variable at high and low levels of each group characteristic. None of the mean differences reached statistical significance.

Table 4.3 Mean differences on Group and Mentor Relationship Processes, Self-Efficacy, and School Belonging by Group Characteristics

		Group Climate	Relationship Quality	School Belonging	Self-Efficacy
Mean (SD)					
Mentor:Mentee Ratio	<.25	3.19 (.54)	3.31 (.59)	3.70 (.94)	3.08 (.62)
	≥.25	3.22 (.60)	3.41 (.58)	3.35 (.94)	3.14 (.67)
Training Attendance	No	3.23 (.64)	3.34 (.62)	3.24 (.98)	3.26 (.59)
	Yes	3.17 (.59)	3.39 (.58)	3.55 (.90)	3.07 (.68)
Interdisciplinary Mentors	No	3.20 (.59)	3.37 (.66)	3.34 (.98)	3.12 (.58)
	Yes	3.38 (.58)	3.38 (.56)	3.54 (.94)	3.12 (.70)
Instrumental Focus	<50%	3.31 (.49)	3.30 (.58)	3.46 (.96)	3.07 (.68)
	≥50%	3.44 (.68)	3.44 (.59)	3.48 (.95)	3.16 (.61)
Relational Focus	<50%	3.25 (.48)	3.34 (.54)	3.49 (.86)	3.05 (.73)
	≥50%	3.16 (.67)	3.41 (.62)	3.45 (.97)	3.19 (.56)

Note: Group characteristics refer to students belonging to groups having each characteristic. No mean differences were significant at $p < .05$.

4.1.2 Primary Quantitative Analyses

Primary analyses included specifying the hypothesized multi-level 2-1-1 structural equation mediation models. See Tables 1.07 – 1.26 in Appendix A for details.

Group climate as mediator. For the models in Tables 1.07 – 1.11, direct paths from Level 2 group characteristics (i.e. ratio, interdisciplinary co-mentors, instrumental focus, relational focus, and mentor training) to Level 1 post-intervention self-efficacy were specified, accounting for significant variance from pre-intervention self-efficacy. In these mediational models, indirect paths from group characteristics to self-efficacy were also specified through participant-reported group climate (Level 1). Because of small group sizes, each group characteristic was specified in a separate model to conserve power.

At the individual level, group climate was positively associated with self-efficacy after accounting for pre-intervention self-efficacy in each model, $b = .34 - .37$, $SE = .11 - .12$, $p < .01$. At the group level, there were no statistically significant associations between group characteristics and self-efficacy or group climate. The intraclass correlations for group climate were .06 signifying that 6% of the variance in group climate could be accounted for by group level differences. The intraclass correlations for self-efficacy ranged from .04 (IV = instrumental focus) to .10 (IV = mentor training). See *Figure 1.3* for a summary of findings.

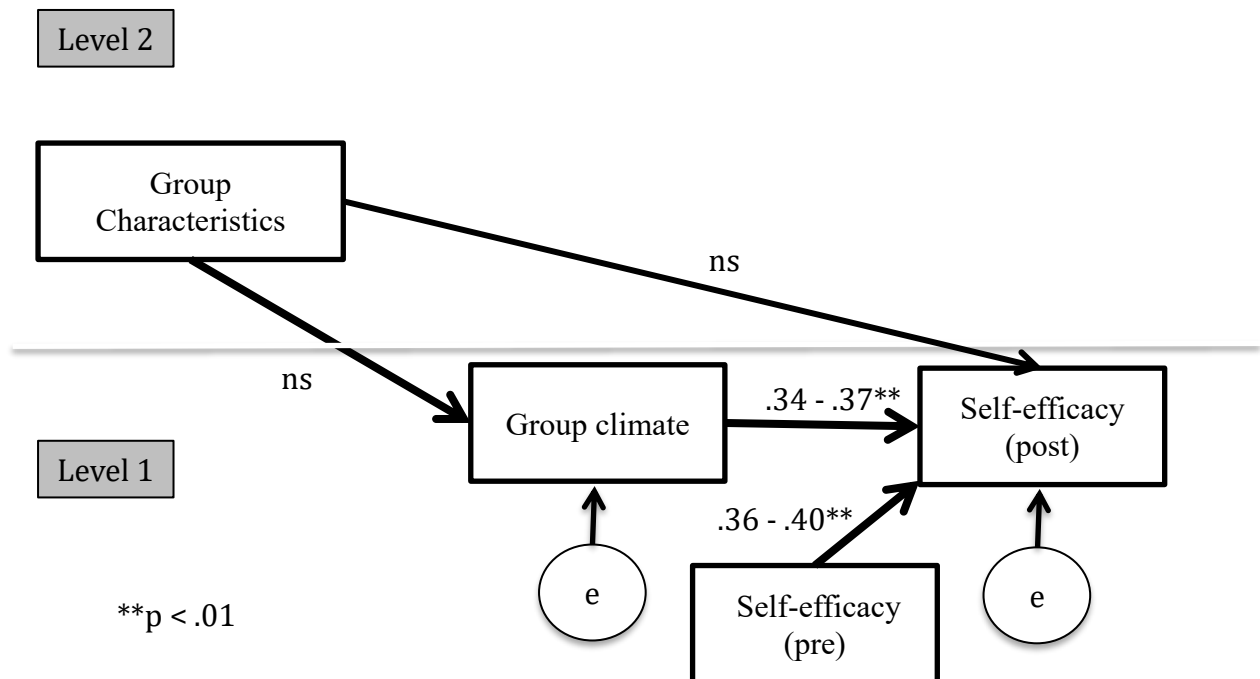


Figure 4.1 Summary of findings from Tables 1.07 – 1.11 examining mediation of group climate in associations of group characteristics and self-efficacy. NS = not significant.

For the second set of models, direct paths from group characteristics to post-intervention school belonging were specified, accounting for significant variance from pre-intervention school belonging (see Tables 1.12 – 1.16). Initial model fit indices revealed poor model fit due to unspecified paths from pre-intervention school belonging to group climate. Final models included this path and fit the data well (see *Model Fit* in Tables 1.12 – 1.16). At the individual

level, group climate was positively associated with school belonging, $b = .56 - .57$, $SE = .17 - .20$, $p < .01$. The association between school belonging at pre-test and group climate ranged from $b = .15$ to $b = .21$ and reached significance only in the model that included mentor-to-mentee ratio, $b = .21$, $SE = .09$, $p < .05$. There were no statistically significant findings between group characteristics and school belonging or group climate at the group level. The intraclass correlations ranged from .06 to .07 for group climate and .03 to .05 for school belonging. See *Figure 1.4* for a summary of findings.

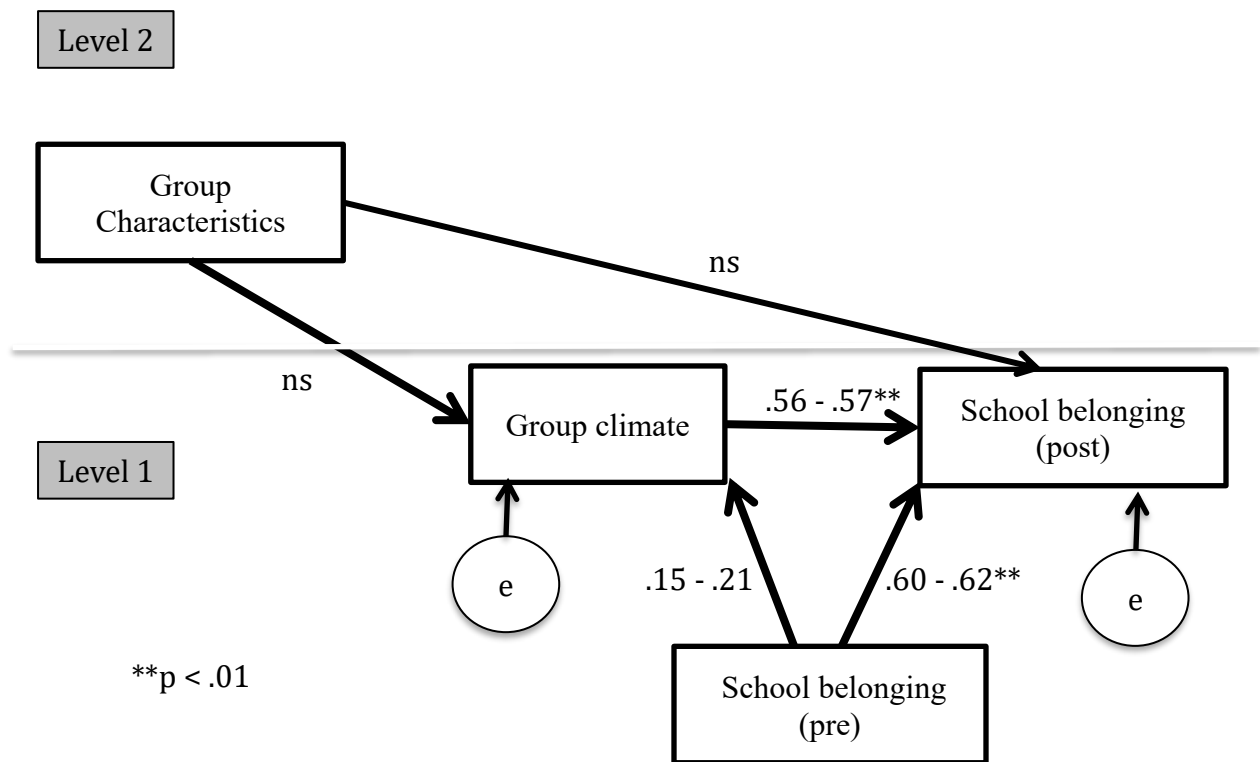


Figure 4.2. Summary of findings from Tables 1.12 – 1.16 examining mediation of group climate in associations of group characteristics and school belonging. Note: the association between pre-intervention school belonging and group climate was only significant ($p < .05$) in the model including mentor-to-mentee ratio, $b = .21$. NS = not significant.

Mentor-mentee relationship quality as mediator. For models depicted in Tables 1.17 – 1.26, paths were specified from group characteristics to self-efficacy and school belonging

through mentee-reported relationship quality. Again, each group characteristic was analyzed in a separate model to maximize power.

In models described by Tables 1.17 – 1.21, examining pathways to self-efficacy, relationship quality was not associated with self-efficacy at the individual or group level. There were no significant associations of group characteristics with relationship quality or self-efficacy at the group level. In these models, the intraclass correlations for relationship quality ranged from .01 – .02 indicating very little between group variance. The intraclass correlations for self-efficacy ranged from .03 (IV = instrumental focus) to .09 (IV = mentor training). See *Figure 1.5* for a summary of findings.

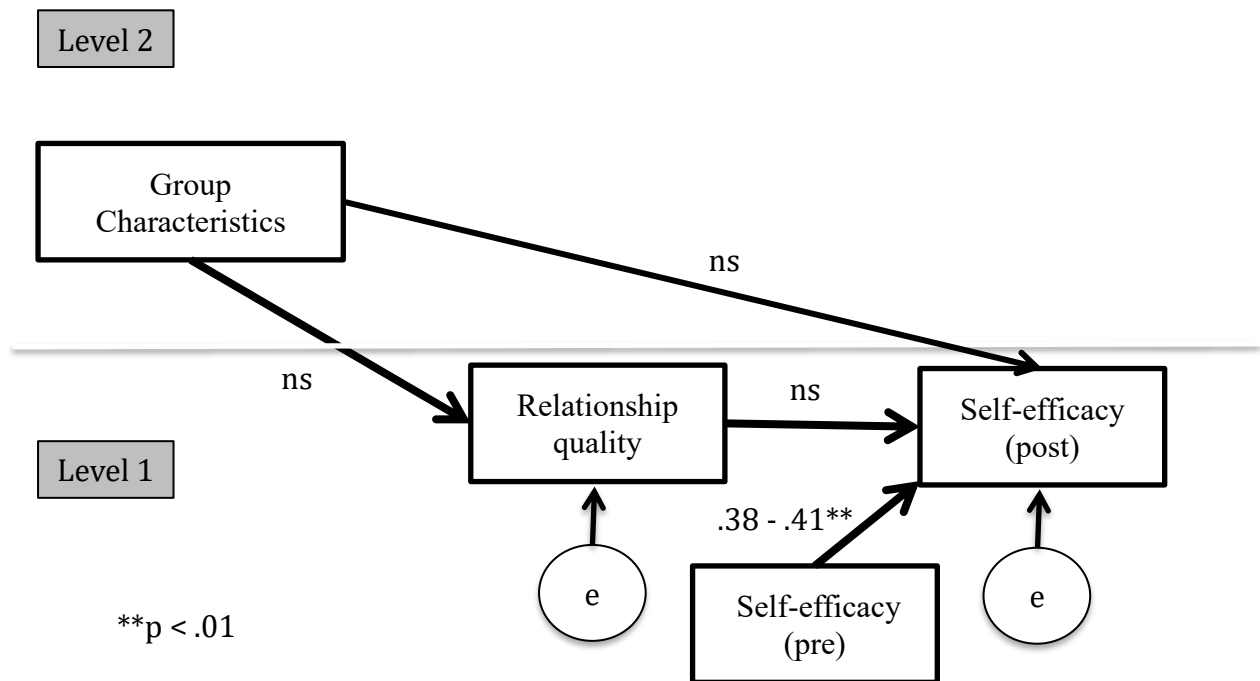


Figure 4.3 Summary of findings from Tables 1.17 – 1.21 examining mediation of relationship quality in associations of group characteristics and self-efficacy. NS = not significant.

In models specifying pathways to school belonging (see Tables 1.22 – 1.26), at the individual level relationship quality was positively associated with school belonging after accounting for pre-intervention school belonging in each model, $b = .29 - .31$, $SE = .15$, $p < .05$.

Pre-intervention school belonging was also positively associated with relationship quality, $b = .65 - .68$, $SE = .11 - .13$, $p < .01$. At the group level, there were no statistically significant associations between group characteristics and school belonging or relationship quality. The intraclass correlations for school belonging were $.03 - .04$ and $.03 - .05$ for relationship quality. See Figure 1.6 for a summary of findings.

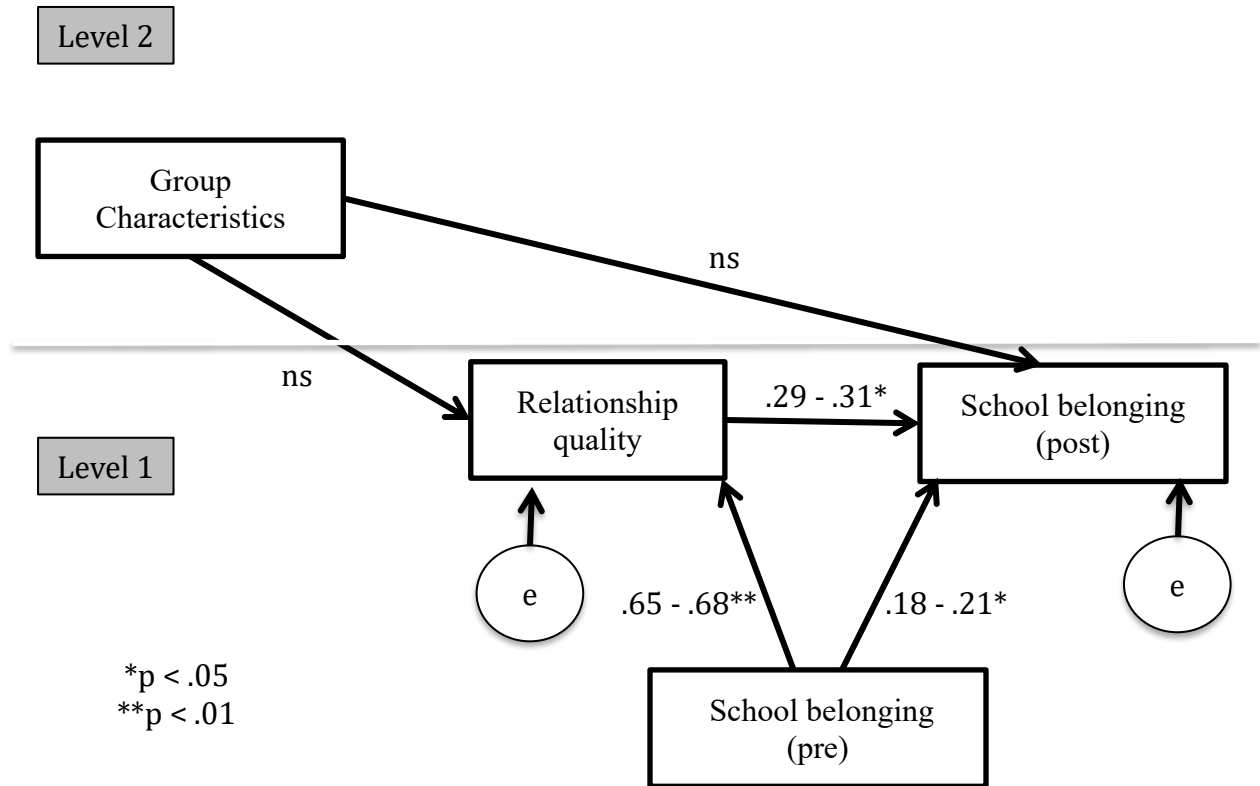


Figure 4.4 Summary of findings from Tables 1.22 – 1.26 examining mediation of mentor-to-mentee relationship quality in associations of group characteristics and school belonging. NS = not significant.

4.1.3 Qualitative analyses

Thematic analysis was used to identify, analyze, and report patterns among group characteristics, group climate and relationship quality, and youth outcomes from focus groups with mentors and mentees. The coding team included the author and two research assistants (at the post-baccalaureate and graduate level) who collaborated to transcribe the focus group

recordings, read and reread the transcripts, and to generate initial codes, identify themes, group and review the themes, and generate theme descriptions (Braun & Clark, 2006). Focus groups conducted in Spanish were transcribed in Spanish first and then translated to English by a bilingual undergraduate research assistant with experience in qualitative methods. Each transcript was reviewed by at least two members of the coding team. Once the initial codebook was developed, codes were categorized into themes and subthemes, and reviewed for overlap. The coding team came to consensus about all coding and theme descriptions.

To allow for maximum convergence with quantitative data, thematic analysis was framed by similar research questions as the quantitative analysis. Namely, questions focused on mentors' and mentees' experiences of interaction focus, mentor training, interdisciplinary co-mentors, and mentor-to-mentee ratio. Questions also probed connections between these group-level factors of mentor-mentee relationship quality, group climate, and individual youth outcomes (i.e., resilience assets, academic achievement). In total, eight broad themes were identified and are described below. Convergence with quantitative data will be discussed in section 4.1.4

Quantitative and qualitative data convergence.

4.1.3.1 Theme 1: Interactions

Mentors and mentees described the types of activities, exchanges, and topics covered during group sessions, captured by the broad theme "Interactions," which contained four subthemes: "Curriculum," "Relational focus," "Instrumental focus," and "Boundaries." The first subtheme, termed "Curriculum," contains information from mentors regarding use of the suggested curriculum provided by the program administrator. Mentors with a lot experience and training reported feeling more comfortable allowing their groups to be less focused on the

curriculum. They stated that it was helpful for beginning mentors, but one experienced mentor described using the curriculum as a back-up:

To me the curriculum is there if you're not getting what you really want. Because, usually, if it's a really innovative group, they're basically saying, "I want to talk about this and that." The curriculum is there...if you don't know where to go if you are a group leader. Or you don't know what to do. That's how I look at it.

Another mentor reported relying more on the curriculum when mentees did not have much they wanted to talk about that week, stating, "Like if nobody wants to talk today, then let's go to the curriculum."

Mentors and mentees discussed the focus of different activities and interactions, which were coded as the subthemes "Relational Focus" and "Instrumental Focus." Interactions with a relational focus included those that emphasized relationships, communication, and conflict resolution. Several mentors felt that allowing students to talk about whatever was on their minds often led to more meaningful interactions. Open discussions allowed mentees to receive support from the group for the issues with which they were struggling. A mentee expressed, "To me, I like the conversations that we have because they help me and give me advice" (translated from Spanish). One school administrator discussed the shift from using the curriculum to a more open dialogue within his group:

The teacher in me tends to be more biased towards, you know, the curriculum piece that has some writing involved, you can make something, or we're reading something. But, then some of our most powerful groups have been when we've left some space for students to say what's on their mind. Because then we build on that, and we push on that, and we see, "Oh, there's an opportunity to teach more about this."

Instrumental interactions were also a common subtheme among all focus groups, and included goal- and task-oriented interactions that emphasized grades, school attendance, college, career, finances, and organization. Several mentors and mentees indicated that academic achievement was an important part of their weekly group meetings, and they used various tactics to address academic needs including binder checks, personal accountability, goal setting and group incentives. One mentor described her group's rituals surrounding academics:

So each week they check in about academics for the last week and make a goal for the following week... They pick one class and they brainstorm a list of things that they can practice to do well. And so, they pick one of those practices, in one of those classes at least, or they come up with their own and they write it on a piece of paper with the name, the date, the class, and the practice. Then, each week they check in about whether they were able to do that from the last week, and they set a new goal for the following week.

One mentee described one of his favorite activities that required students to focus on the financial realities of certain lifestyles, saying,

It was giving you options about what you want, and you get to pick that. You basically get to see later on in life. Like what kind of houses you want. And then like, the pay rate. It was basically telling you how much income you would need to support your life. That kind of helped us about what we're going to do later on.

Mentors mentioned the importance of well-defined boundaries in their groups regardless of interaction focus, which was captured as the last subtheme, "Boundaries." They acknowledged the importance of open discussions and relationally-focused interactions, especially in the beginning when everyone is getting to know one another, but a mentor

acknowledged that these interactions still require boundaries, stating, “If we leave it kind of loose, then they kind of goof off and it’s hard for us to get anything done.”

4.1.3.2 Theme 2: Training

“Training” emerged as another important broad theme from the mentor focus group data. This theme included information related to formal mentor training provided by the program administrator. There was a range of responses from mentors regarding whether or not they received training, and if so, whether or not they found it helpful. One important subtheme that emerged from the data was “Feedback,” which contained comments and suggestions meant to improve future training sessions. Mentors requested more training related to behavior management, setting realistic expectations for mentor-mentee relationships, and having trainers or guest speakers who are more familiar with the mentee population to help mentors gain insight into the best ways to connect with their mentees. One mentor posed an idea for additional training, saying, “Having past mentors from our site come and talk about what it’s like to work with the student population here could maybe help alleviate some stuff that mentors face in the first few months.”

4.1.3.3 Theme 3: Co-mentors

Mentors and mentees discussed the use of co-mentors, which was coded as the broad theme “Co-mentors.” Three subthemes were extracted from this theme: “Interdisciplinary,” “Sharing Ideas,” and “Group dynamics.” The most prevalent subtheme was “Interdisciplinary” and captured information about co-mentors who worked in different departments within the school. Several participants reported that co-mentors holding different specialties (i.e. academic advising, mental health counseling, administration) were able to balance academic and socio-

developmental needs of the group. One conversation between two co-mentors described this dynamic:

I really like having an [academic] counselor and wellness staff. Like, I think that we really complement each other. I think having people that work in different departments and have different strengths as mentors is really helpful. Like [co-mentor] can go over all of the grade stuff and the credits and blahblahblah; and, I can talk more about resources and mental-emotional health support that students might need. And just having that combination of skills has been really, really helpful. Cause she makes sure it's not just like a process fun group. Cause she's like 'No, we're keeping it on track with the academics.' We just have like different strengths that we put into it, which is good.

One mentee commented on the benefits of having co-mentors in two different departments at school:

Like [mentor 1], he can't give you motivation, but he'll be straight up with you like 'Ah, you failin'. You goin' to summer school now, so you better get yo ass up and start doing this.' But [mentor 2] will be like, "What are we gonna do to not go to summer school? What are we gonna do to prevent it?" And [mentor 1] will just tell you how it is, which I think works better sometimes because we get two points of view."

Mentors also reported that co-mentors from different departments helped create awareness of the various resources available to mentees. One mentor mentioned utilizing interdisciplinary co-mentor skills, knowledge, and resources: "I also had other resources too. My co-facilitator, she's an after school program coordinator, so we've talked to kids about internships like for summer jobs."

A second subtheme of “Co-mentors” that emerged from the data was “Sharing Ideas,” which captured mentors’ appreciation of having someone with whom to share ideas about the group. A mentor commented that she enjoys “just working with a colleague and meeting regularly with somebody, and sort of expanding my skillset beyond just the one on one counseling.” The final subtheme was “Group dynamics,” defined as information regarding the ways having co-mentors influenced group dynamics like behavior management. One mentor stated, “We’ve both led the group by ourselves at one point or two, and the dynamics change very dramatically. It always seems better if we are in it at the same time together. So, just from that, I would say that there is strength in numbers for whatever reason with these kids.”

4.1.3.4 Theme 4: Challenges

Several challenges were discussed during focus groups. These were coded under the broad theme “Challenges” and included responses pertaining to the difficulties that mentors and mentees face in Project Arrive. The two subthemes from this category are “Group size and attrition” and “Limitations of reach.” Mentors reported that group size fluctuated throughout the year depending on student schedules, attendance, classroom performance, and attrition. One mentor stated, “It’s fluctuated. Like first we took 12, after orientation. But it went down to about 6-8. We started out with about 6, went up to 8, and then ended up with 7. And, then we had a random eighth person who wasn’t supposed to be in our group.” Several mentors noted that they preferred smaller groups with one mentor saying, “I think that the smaller group size is better. We have five right now and that’s pretty manageable,” but because of attendance and attrition issues, some groups got smaller than expected. A mentor explained, “I’ve got three kids, so in terms of human resource, you’re putting two adults with three kids for an hour a week. That’s a lot of human resource.” Another mentor lamented that her group of the three mentees was too

small stating, “I wish that I could have more students to be a part of it. It was positive with the number of students that we had. I just wish it could have been more.”

Mentors and mentees also identified limitations of the program itself, which may be contributing to attendance and attrition issues. These limitations were captured by the subtheme “Limitations of Reach.” Mentors reported being concerned that once a week group mentoring was not an intense enough intervention for some struggling students, especially those who are highly truant. One mentor described this greater need:

I think one of the things we were thinking about for next year, is looking at students who had a high attendance and low grades. Because I think the kids who had really high truancy or very low attendance and very low grades, those are kids who need a level up anyways. Like, they need a case manager. They need something else. And, that’s kind of who dropped out of the groups. Whereas the kids who have high attendance, like they are in school every day but their grades are just low, those are the kids who would be swayed by some kind of group. I don’t think the other kids are always swayed by a group. They need another kind of wake-up call that is not Project Arrive, I think.

4.1.3.5 Theme 5: Mentor-Mentee Relationships

The “Mentor-Mentee Relationships” theme describes the ways that mentors and mentees feel about one another and the relationships that they have developed. There were five subthemes: “Relationship development,” “Support,” “Respect,” “Honesty,” and “Accountability.” One subtheme titled, “Relationship development” includes information about the life-cycle of the mentor-mentee relationship beginning with getting to know one another and expressing uncertainty, and ending with relationship dynamics after Project Arrive had ended. One mentor stated, “I feel like when you nurture something and then they move on, they’ve

graduated, what then? ... It becomes difficult to move on. I think it's very difficult to nurture someone and work with them and then they become tenth graders. And then what?" Another subtheme was "Support" describing the supportiveness of the mentor-mentee relationship during the Project Arrive year and well after it ends. Once mentee stated,

We trust them more now. A lot of the students come back to [mentor name]. You'll see seniors poppin' in his room to say hi to him. I mean he's really cool with them because they really enjoyed him during their freshman year. So I feel like if you really create a bond freshman year, you can really talk to them and stuff like that.

Mentors and mentees identified three characteristics of their relationships that emerged as additional subthemes: "Respect," "Honesty," and "Accountability." "Respect" describes the ways in which mentors and mentees regarded the feelings, wishes, rights, and traditions of one another. One mentor reported, "I think it's the way that we deliver [feedback] too...It's a non-authoritative way and it's referring back to the community agreement, and how we want to respect the space. They're a lot more open to that than if we were like... 'You're ruining the group!'" Several mentees also reported feeling respected when their mentors asked for their opinions and input about the group. Another subtheme was "Honesty," suggesting that both mentors and mentees valued sincerity in their relationships. One mentor reported that one of the things they appreciated most about their mentees was their "honesty...for better or worse." Finally, the subtheme "Accountability" describes the high expectations mentors have for their mentees, and the ways in which mentors hold them accountable to these expectations. One mentee described his mentors' strategy for ensuring that the mentees are engaged and understanding the content, stating, "They'll give us information and then they'll ask for feedback

to see if we really get it or if we're just like, you know." One mentor gave the following example of accountability:

They know to expect that I'm going to be checking on their grades. Part of that is also being able to problem solve and talk to teachers about their assignments which they have. One student came in late Friday because when I printed his grade out there was a C on it. Then, when he came in, he's like, "Sorry I'm late, I was talking to the teacher and I have an A in that class now because I turned in all the work" Just so when he came in here, that's like taken care of.

4.1.3.6 Theme 6: Group Climate

Mentors and mentees also discussed the group processes that occurred within their mentoring groups in a broad theme termed "Group Climate." Four subthemes were identified: "Development," "Respect," "Group cohesion," and "Mutual help." Similar to the "Mentor-Mentee Relationships" subtheme of "Relationship development," one important subtheme one important subtheme was "Development," which includes responses detailing the development of group climate. One mentor described his group's strategy for overcoming initial difficulty developing a positive group climate:

At first they were uncomfortable because they had nothing in common, really. I mean they were so diverse. They sat there and they were so quiet. But I think that one of the things that we, we made up our rules, you know our, norms, and we gave them the option to set their norms.

Several mentors and mentees also reported that respect was essential for positive group climate, which was extracted as the "Respect" subtheme. One mentee detailed the norms their group established to cultivate respect, "Don't talk about things that are off topic. Do not call others

names. Let one person speak at a time” (translated from Spanish). A mentor reported how increased respect improved group interactions, stating, “They really wanted respect. And through that, they learned to become more and more comfortable and they give each other more and more advice. I’m very pleased to see how they developed their relationships with each other, in their respectfulness.”

Two other important subthemes emerged under the broad theme “Group Climate:” “Group Cohesion” and “Mutual Help.” “Group Cohesion” describes the connection that group members felt toward one another and the group as a whole. One mentor stated, “I really appreciate how connected they are to each other and how much they support each other.” Another mentor mentioned the difficulty of maintaining cohesion when personalities clash, reporting:

And it’s interesting to see how like, one or two kids can also shift the whole thing. It’s like this very tenuous balance. Like, it can be like, a pretty solid group and then there’s one kid who just always gets it going. And then how do you continue to support and welcome that kid and at the same time not strangle them?

A mentee discussed their group’s strategy for maintaining and building cohesion: “We connect. We feel good because when someone has an opinion, we include them. We don’t leave anyone out” (translated from Spanish).

“Mutual Help” includes information regarding the reciprocal exchange of advice and assistance for mutual benefit within the group. This subtheme was especially common among mentees, one of whom stated, “Well, we’re friends here so, you know, if I’m getting bugged about something, I could ask them for help.” One mentor described the cohesion and mutual help within her group:

My group is like a little family. We spend a lot of time together. We joke around. We help each other out. You can tell when someone's having a bad day and we gather around and support that person. In the beginning, it took a while to get there. And, that's why I didn't want to let go. You know, we did all this work and they're asking to continue. And that's a good feeling. Now, I see them at lunch helping each other out, and kind of building their own communities.

4.1.3.7 Theme 7: School Belonging

Despite challenges, mentors and mentees identified several benefits of program participation. One such benefit was captured by the theme "School belonging," which described mentees' growing affinity for and connection to their schools. One mentor explained how the close adult and peer connections that group participation facilitates foster a sense of school belonging that mentees had not experienced before:

I think it's creating that sense of belonging and relationship when they're at school. And so, when they're in the group, they're building that relationship with us. So, I think all of us have kids that are in our groups and come talk to us outside of group time, like, "I need to talk to you about this thing!" Like, there's an adult there that they can come to, that they can bounce off anything from "I'm failing math," to you know, "My family might become homeless," or like boy trouble or whatever. Also having a sense of cohesiveness and connection with other peers, which is obviously very important to them. So, I think they get into that sense of like "This is our group."

Two subthemes were coded under the broad theme "School Belonging": "Connecting Support Across Personnel" and "Wellness Centers." "Connecting Support Across Personnel" is defined as mentors helping mentees access resources and support across the school and

community. For example, a mentee stated that his mentors communicate with his teachers about grades, saying, “Like sometimes if we’re having problems with a teacher [mentor’s name] or [mentor’s name] will usually be like, ‘I’ll talk to your teacher about your grade.’ Like if you’re turning in your work why isn’t the grade changing, you know? So they’ll talk.” Mentors also reported several instances of connecting mentees to resources through teachers, school administrators, academic counselors, wellness therapists, community partners, job opportunities, and health services. One mentor stated:

We refer to mental health counselors and we have interns, so if there’s a student in crisis we could easily refer them to staff that are here. We have students with health issues.

Maybe they just need glasses and we can refer them to the nurse right away. They’re able to get seen and maybe get a free set of glasses...I think we have community partners that would be able to address needs if and when it arises.

Another subtheme that emerged was the importance of wellness centers in increasing school belonging, termed “Wellness Centers.” Mentors reported that wellness centers are a refuge for struggling students to find support without the academic pressure from teachers and academic counselors. A mentor and wellness center staff member described her experience with mentees increased use of the school’s wellness services:

I think something that I’ve liked a lot is getting to know this slice of the student body that I don’t think would have come to wellness otherwise. Like I connect a lot with the students who are highly truant, who wellness is the place where they are not going to get in trouble. They’ll come in just to talk for five to ten minutes and check in...I like doing this group because I feel like I’ve gotten to know different types of student who I don’t know would have otherwise reached out for help.

4.1.3.8 Theme 8: Academic Self-Efficacy

The final theme, “Academic Self-Efficacy,” describes the emphasis on mentees’ belief in their own capacity to enact behaviors that will improve academic performance. Mentees described knowledge and skills they have gained during group to improve academic self-efficacy including how to talk to teachers, ask for help, manage time, and get organized. When asked, “What do you think your ninth grade experience would have been like without this group?,” one mentee responded, “Harder. More bad grades.” Another mentee stated, “My grades were low, but [the group] helped pull me through and I raised my grades, and I’ve improved these last few months.” (translated from Spanish.) One mentor reported that a specific focus on conflict management skills attributed to academic self-efficacy, stating,

The other big one that sticks out this year is that we had two sessions on how to deal with difficult teachers. We talked about different personalities and your goals. It’s a teacher now, but it could be a boss in the future or a coworker. And that’s a skill that we can practice and keep developing. So, we role-played and we talked about best and different approaches to go talk to a not-so-favorite-teacher. I thought that they got a lot out of it. And when we checked back in, they had talked to their teachers. Their grades were improving, so that was really positive.

4.1.3.9 Qualitative summary

Overall, participants reported positive mentor-mentee relationships and group climate. Mentors and mentees identified the importance of respect, support, and accountability in developing positive relationships, and respect, cohesion, and mutual help in building positive group climates. Participants acknowledged these characteristics as critical driving forces in positive outcomes for mentees. Specifically, creating group norms and open, honest dialogue

seemed to foster a sense of group cohesion that supported mentees' sense of belonging and academic self-efficacy. In addition, setting weekly expectations to which students knew they would be held accountable appeared to be a motivating factor in improving academic performance. Mentees who felt more connected to their groups and mentors also appeared to value being in the group and carried these relationships beyond the group setting.

Group interactions occurred largely outside of the provided curriculum. Mentors suggested that the curriculum was helpful when they were just beginning or when they were unsure about what to do with their groups, but most mentors endorsed involving mentees in decisions about topics and activities for group sessions. Everyone seemed to value relationally focused interactions, particularly when groups first started in order to help build relationships and group cohesion. Mentors suggested that task- or goal-driven activities were more successful in the context of strong relationships and group climate. Academic success and self-efficacy seemed to be an important topic for instrumental interactions, which included binder-checks, goal setting, and career planning. Mentors reported that well-defined boundaries were integral for successful relational- and instrumental-focused interactions.

There were several group-level themes and subthemes that emerged from the data including mentor training, use of co-mentors, group size, and attrition. Mentors who felt well trained were generally more comfortable in their mentoring roles and were able to have more flexible interactions with mentees. Mentors also suggested that future trainings include less review of curriculum and more information about managing group dynamics such as behavioral issues, connecting with teens, and setting expectations. Both mentors and mentees seemed to agree that the use of co-mentors helped ease the stress of leading groups and managing group dynamics. They particularly appreciated interdisciplinary co-mentors who could bring

complimentary knowledge, skills, and resources to the groups. Mentors also reported that smaller groups were easier to manage and helped facilitate positive relationships and group climate faster than bigger groups. Several mentors identified a group of five to six mentees as ideal, but noted the difficulty in controlling group size given the attendance and attrition issues that occurred throughout the year. They noted that starting off with a group of only five mentees may lead to a group that seems too small if several mentees leave the group. Mentors and mentees noted that some students who do not attend and those who leave the group may need a higher level of intervention and more one-on-one attention than mentors can provide in the group setting.

Despite some of these limitations, the vast majority of mentors and mentees reported perceiving positive youth outcomes related to school belonging and academic improvement and self-efficacy. Participants reported that mentees were building school belonging through relationships with their mentors and peers as well as newly identified knowledge of and access to school resources facilitated by the mentors. Mentees also seemed to benefit from academic support from mentors, which included holding mentees accountable for grades, homework, and organization, and lessons on advocating for oneself with teachers. Mentors also advocated on mentees' behalf. In general, mentees appeared to appreciate the contribution of Project Arrive to positive changes in their lives.

For additional quotes from broad themes and subthemes, please see Table 1.27 in Appendix A. Further discussion of themes will be addressed in Chapter 5: Discussion.

4.1.3.10 Quantitative and qualitative data convergence

The quantitative data analyses suggest a statistically significant contribution of mentee-reported group climate and relationship quality to positive youth outcomes. Specifically, group climate was positively associated with improvement in both self-efficacy and school belonging.

Relationship quality was positively associated with increases in school belonging. Further, pre-intervention school belonging contributed to the variance in relationship quality, suggesting that students with higher school belonging at the beginning of the year were able to establish more positive relationships with their mentors. These findings were similar across models containing different group characteristics as the independent variables. Group characteristics themselves (i.e. mentor-to-mentee ratio, interdisciplinary co-mentors, instrumental focus, relational focus, and mentor training) were not significantly associated with other study variables in the quantitative data.

The qualitative data provide a richer context for understanding group characteristics, and support the quantitative findings regarding associations among mediators (i.e., group climate and relationship quality) and positive youth outcomes (i.e., school belonging and self-efficacy). Mentors and mentees discussed the importance of cohesion, mutual help, and respect in helping students feel connected to their peers, mentors, and larger school communities. Positive group climate and supportive relationships with mentors also provided a safe and intimate setting for students to develop the self-efficacy needed to improve their academic performance.

Participants' qualitative descriptions of group characteristics may help inform the lack of statistically significant quantitative findings. For example, mentors noted that developing positive group climate and relationship quality was difficult in bigger groups, but this association was not statistically significant in the quantitative data for associations with mentor-to-mentee ratio. This could be due to measurement problems given fluctuating group sizes as ratio was determined by group placements at the beginning of the academic year. Mentor-to-mentee ratios likely changed throughout the year as mentees shuffled groups and/or stopped attending, rendering ratios at the beginning of the year inaccurate.

Mentors and mentees discussed utilization of interdisciplinary co-mentors as a positive group characteristic, which helped connect students to more resources within the school and provided them with different perspectives and types of advice related to challenges they faced. Again, measurement issues may have interfered with statistical analyses for interdisciplinary co-mentors as the broad, dichotomous measure may not have been sensitive enough to capture benefits of co-mentors from certain interdisciplinary departments (e.g., academic counseling and wellness center). Further, measures for interaction focus may not have been nuanced enough to capture the specific types of interactions, namely open-dialogue (relational) and academic-related activities (instrumental), that mentors and mentees endorsed as being especially meaningful in their groups.

Finally, mentor training was not associated with mediators or positive youth outcomes in the quantitative data, but many mentors acknowledged the importance of training for successful groups. In fact, mentors reported that they would appreciate more training on group processes and relationship building in addition to curriculum content. Perhaps, simply measuring whether or not mentors attended training is not enough, but rather it is type, focus, and relevance of training that leads to better outcomes. For further consideration of these issues, see Chapter 5: Discussion.

4.2 Study 2

In Study 2, ten 2-2-1 MSEM models were constructed to assess the associations between group characteristics (Level 2) and GPA and academic credits (Level 1), and whether group cohesion (Level 2) mediated these associations.

4.2.1 Preliminary Analyses

Missing data. Study variables had 0.0 to 19.3% missing data. Little's MCAR test was not

significant, which suggested that the missing data were missing completely at random, $\chi^2(14) = 11.18, p = .67$. As such, multiple imputation was used to create 20 datasets (Bodner, 2008; Graham, Olchowski, & Gilreath, 2007) to create a complete dataset for the full sample ($N = 238$). The multiple imputation model included all study variables.

Descriptives. Means and standard deviations of Level 1 variables are displayed in Table 2.03, and Level 2 variables are displayed in Table 2.04. Similar to Study 1, average mentor-to-mentee ratio was approximately 1:3 (.31), and group interactions tended to focus on more instrumental than relational topics, $t(113) = 4.39, p < .01$. Mentors' post-intervention reports of group cohesion were generally high (i.e. mean above 3, or "Somewhat cohesive"). Average 9th grade (spring semester) GPA was equivalent to a C-, which was lower than average 8th grade GPA (equivalent to a C), $t(237) = -3.40, p < .01$. Average academic credits earned was 25.63 for 9th grade (spring semester), indicating that students remained on track to graduate, but slightly less than average credits earned in 8th grade ($\bar{x} = 26.64$), $t(237) = -1.34, p = .06$. These results are congruent with previous studies that suggest some academic achievement loss is expected in the transition from middle school to high school (Alspaugh, 1998).

Correlations. Tables 2.03 and 2.04 also provide correlations among group (Level 2) and individual (Level 1) variables, respectively. As in Study 1, interdisciplinary co-mentor teams were more likely to have attended training and reported a more instrumental and less relational focus. Mentor-to-mentee ratio was negatively correlated with mentor-reported group cohesion. Group cohesion was positively correlated with instrumental focus. GPA and credits had a strong positive correlation in both 8th and 9th grades, and 9th grade GPA and credits were positively correlated with the 8th grade measures of each variable.

Table 4.4 Correlations among Level 2 variables

	1	2	3	4	5	6
<u>Group characteristics (Level 2; k= 41)</u>						
1 Mentor-to-mentee ratio	--					
2 Instrumental focus	-.16	--				
3 Relational focus	.17	.41	--			
4 Mentor training attendance	.03	-.14	-.15	--		
5 Interdisciplinary co-mentors	-.08	.31	-.31	.29	--	
<u>Change mechanism</u>						
6 Group cohesion	-.23	.32	.14	-.04	.04	--
Mean	.31	3.47	3.20	--	--	4.02
Standard Deviation	.11	.75	.75	--	--	.88

Note: Bold = $p < .05$

Table 4.5 Correlations among Level 1 variables

	1	2	3	4	5
<u>Outcome variables (Level 1; n= 238)</u>					
1 Spring 9 th grade GPA	--				
2 Spring 9 th grade Credits	.87	--			
<u>Covariates</u>					
3 8 th grade avg. GPA	.45	.31	--		
4 8 th grade avg. Credits	.40	.37	.74	--	
<u>Demographics</u>					
5 Sex	.05	.00	.16	.17	--
Mean	1.76	25.63	1.98	26.64	--
Standard Deviation	1.07	12.00	.78	6.41	--

Note: Bold = $p < .05$

Mean differences. Similar to Study 1, group characteristics were dichotomized to test mean differences of group cohesion, GPA, and credits at high and low levels of each group characteristic. Mentor-to-mentee ratio was split at 1:4; both instrumental and relational interaction focus were dichotomized at 50% of the time or more (high); and, formal training attendance and interdisciplinary roles of mentors were yes (high)/no (low) items. See Table 2.05 for means and standard deviations of each outcome variable at high and low levels of each group characteristic. Covariates were participant sex and pre-intervention measures of outcome variables.

Groups that engaged in instrumental-focused interactions 50% of the time or more had higher average group cohesion, $F(1, 236) = 9.40, p < .01$. Participants in groups with a mentor-to-mentee of 1:4 or less had higher average post-intervention GPA after accounting for pre-intervention GPA, $F(1, 236) = 7.37, p < .01$. Participants in groups with at least one mentor who reported attending formal training also had higher post-intervention GPAs, $F(1, 236) = 4.69, p = .03$. Please see Table 2.05 for further details.

Table 4.6 Mean differences on Group cohesion, GPA, and credits by Group Characteristics

		Group Cohesion	GPA	Credits
		Mean (SD)		
Mentor:Mentee Ratio	<.25	4.21 (.56)	1.40 (1.03)	23.12 (13.27)
	≥.25	3.97 (.94)	1.87 (1.06)	26.37 (11.56)
Training Attendance	No	3.23 (.72)	1.51 (0.94)	23.84 (11.91)
	Yes	3.17 (.93)	1.86 (1.10)	26.34 (11.92)
Interdisciplinary Mentors	No	3.94 (.96)	1.72 (1.06)	24.66 (11.61)
	Yes	4.10 (.79)	1.78 (.56)	26.54 (12.33)
Instrumental Focus	<50%	3.84 (.97)	1.73 (1.04)	24.23 (10.92)
	≥50%	4.18 (.77)	1.79 (1.08)	26.79 (12.93)
Relational Focus	<50%	3.97 (.81)	1.70 (1.02)	25.18 (11.09)
	≥50%	4.07 (.94)	1.80 (1.10)	25.98 (12.63)

Note: Group characteristics refer to students belonging to groups having each characteristic. Bold = $p < .05$.

4.2.2 Primary Quantitative Analyses

Primary analyses included specifying multi-level 2-2-1 structural equation mediation models. See Tables 2.06 – 2.15 in Appendix B for details.

For these MSEM models, direct paths were specified from Level 2 group characteristics (i.e. ratio, interdisciplinary co-mentors, instrumental focus, relational focus, and mentor training) to Level 1 post-intervention GPA and credits earned, accounting for pre-intervention measures of

each dependent variable. In these mediational models, indirect paths from group characteristics to outcomes through mentor-reported group cohesion (Level 2) were also specified. Because of small group sizes and limited number of groups, each group characteristic and outcome variable was specified in a separate model to maximize power. The only statistically significant pathways that emerged in any model were from pre- to post-intervention outcomes. See *Figure 2.2* for a summary of findings.

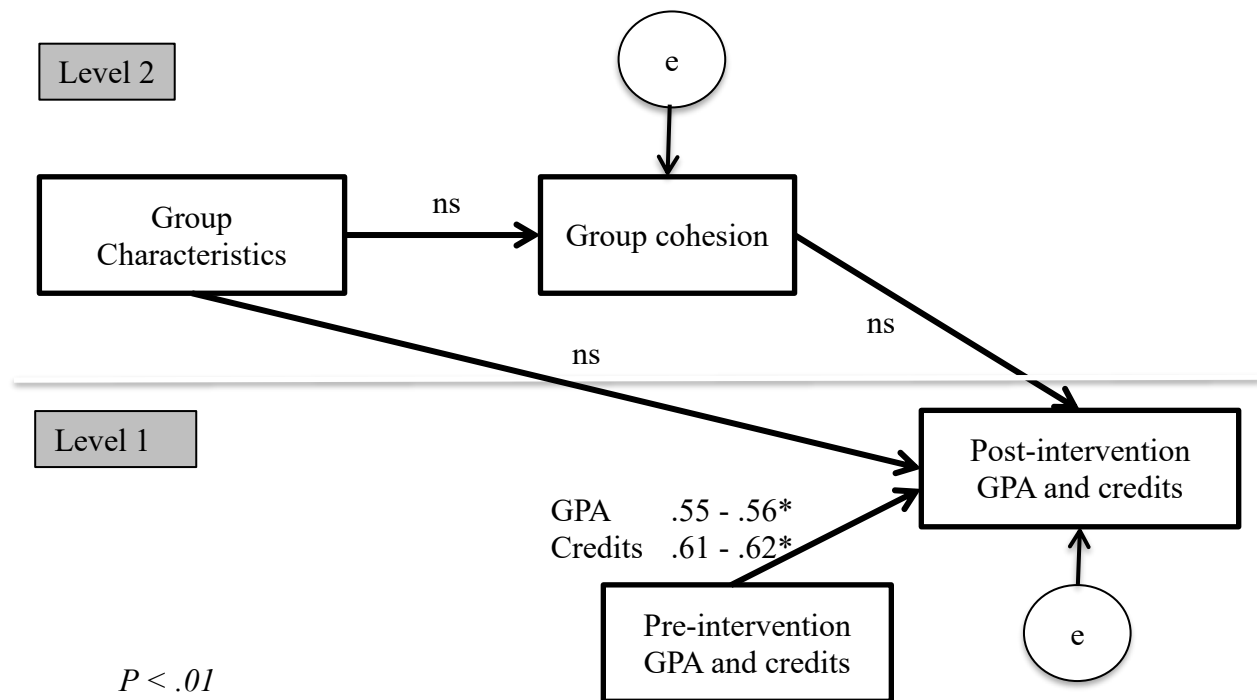


Figure 4.5 . Summary of findings from Tables 2.06 – 2.15 examining mediation of group cohesion in associations of group characteristics and academic outcomes. NS = not significant.

As expected, the intraclass correlations for pre-intervention GPA and credits were .00; however, the post-intervention intraclass correlation for GPA was .15 signifying that 15% of the variance in GPA could be accounted for by group level differences. The post-intervention intraclass correlation for credits was .16, indicating group level variation in credits as well.

5 Chapter 5: Discussion

Group mentoring is a common form of mentoring that is often overlooked in the empirical literature. It is used in nearly half of all youth mentoring programs (DuBois et al., 2011), but change mechanisms and best practices for group mentoring are just beginning to emerge from empirical studies. Research has revealed that the mentor-mentee relationship and group climate are important change factors in positive youth outcomes ranging from behavioral and academic to socio-emotional (Kuperminc & Thomason, 2013), yet there is still very little information about how program characteristics and practices can help mentors and mentees build positive relationships and group processes that lead to targeted youth outcomes. The goal of the current set of studies was to examine the associations among group characteristics, mentor-mentee relationship quality, group climate, and youth resilience and academic achievement. Due to the lack of research on these associations, another goal of the current study was to integrate quantitative and qualitative data to gain a richer understanding of these variables and the contexts in which they occur.

The current studies examined five group characteristics that have emerged in the literature as potentially important: mentor-to-mentee ratio, interdisciplinary roles of co-mentors, instrumental and relational interaction focus, and mentor training (Herrera et al., 2013; Karcher & Nakkula, 2010; Kuperminc & Thomason, 2013; Marshall et al., 2013). Using a subset of the Project Arrive participants who completed surveys and focus groups, Study 1 examined whether these group characteristics were associated with two promotive factors for youth resilience targeted by Project Arrive: school belonging and self-efficacy. Study 1 also assessed the mediational role of group climate and mentor-mentee relationship quality in these associations. It was hypothesized that each characteristic would explain variance in school belonging and self-

efficacy, and that some of these associations may be explained, in part, through connections with relationship quality and group climate. An overarching aim of Project Arrive was to improve academic performance by targeting resilience assets; therefore, Study 2 used data from the school district to examine connections among group characteristics and academic performance for all Project Arrive mentees. Study 2 also assessed mentor-reported group cohesion as a mediator.

Although there were no significant pathways from group characteristics to mediators or outcomes in the multilevel structural equation models for either study, mentors and mentees discussed their perceptions of the connections among group characteristics, group climate, relationship quality, and resilience in the qualitative data. Lack of findings for group characteristics (all Level 2 variables) will be discussed further in section 5.3 *Strengths and Limitations*. Additionally, mean difference testing revealed preliminary evidence of the influence of mentor-to-mentee ratio and mentor training attendance on GPA, and instrumental interaction focus on group cohesion. Multilevel structural equation modeling revealed that higher mentee ratings of relationship quality were associated with increases in school belonging, and positive mentee-reported group climate was associated with increases in both school belonging and self-efficacy.

5.1 Evaluating best practices

Mentor-to-Mentee Ratio. There has been some evidence that group size is negatively associated with relationship quality, group climate, and youth outcomes (Kuperminc et al., 2018). Practice manuals encourage programs to limit mentor-to-mentee ratio to 1:4 (Garringer et al., 2017), but there has yet to be empirical examination of this ratio. The current studies examined mentor-to-mentee ratio as both continuous and dichotomous (split at 1:4.) In both

studies, only seven groups (out of 31 in Study 1 and 41 in Study 2) had a mentor-to-mentee ratio greater than 1:4, indicating that most groups adhered to current guidelines. In Study 2, mean difference testing revealed that average post-intervention GPA was lower among the groups with higher mentor-to-mentee ratios compared with those who maintained a 1:4 ratio or less, providing preliminary evidence that mentor-to-mentee ratios greater than 1:4 may result in worse academic outcomes.

The qualitative data uncovered more nuance in the role of mentor-to-mentee ratio within mentoring groups. Mentors reported that they preferred smaller groups of about five mentees and two mentors, but they also stated that due to attrition and attendance problems, group size often would decrease as the year progressed. Mentors felt that groups that were too small were not an efficient use of their time and resources. Perhaps, the influence of mentor-to-mentee ratio is bi-modal wherein problems arise when groups are too big or too small. Future studies could assess this by tracking weekly attendance paying attention to average group size over time, mentor-to-mentee ratio, and whether the same mentees are attending each group session. Mentor attendance would also likely be important to track given the shift in group dynamics and relationships that could occur with mentor absences. Measuring group climate and mentor-mentee relationship quality at several intervals throughout the intervention could also provide needed information about changes that may co-occur with shifts in the ratio of mentors to mentees.

Interdisciplinary Co-mentors. Most groups in Project Arrive had two co-mentors, which is often recommended in the literature as a way to decrease cancellations, manage group dynamics, and provide mentors with peer support (Kuperminc & Thomason, 2013; Marshall et al., 2013; Sherk, 2006). Co-mentors also share their individual experiences and expertise, so when co-mentors come from different departments within the school they may bring

complimentary skills and knowledge to the group that would not otherwise be available. Many mentors who were paired with a co-mentor from another department described these benefits. The most common example of a beneficial combination was when mentors from the student wellness center (e.g., social workers, therapists) were paired with academic advisors. Mentors and mentees noted that the focus on emotional well-being and academics created a nice balance for prioritizing individual achievement as well as relationships and group dynamics.

These cross-departmental pairings were intentional only during the second year of data collection at two schools, after co-mentors from the academic counseling departments and school wellness centers who were paired during the first year reported very positive experiences. In this study, interdisciplinary co-mentors were simply measured as any pair of co-mentors from different departments within the school. Perhaps lack of attention to the specific complementary skills and knowledge of each pair was one reason that there were no quantitative findings. For future quantitative analysis, measurement of interdisciplinary mentors may need to focus on specific pairings. For example, the influence of pairing an individual with counseling skills together with an individual with academic and career guidance skills as co-mentors may not be the same as other combinations, such as pairing a vice-principal with leadership skills with a security officer who focuses on behavioral concerns. Co-mentors' specific complementary knowledge and skills are likely important to the group dynamics and relationship quality.

Other aspects of co-mentors' knowledge and experience may be important for future studies to investigate. A near-peer mentor (older adolescent or young adult) might co-mentor with an older and more experienced mentor, in which the former might be better able to identify with the youths' experience and the latter might have more life experience to share. For example, TeamWorks, a youth mentoring program for middle schoolers in Los Angeles, has found success

using mentor teams consisting of a teacher, a college student, and a corporate volunteer (Murphy, Soto, & Gopez, 1997). In order to empirically test the effectiveness of mentor pairs and teams, future researchers and program administrators may be more intentional about structuring co-mentoring pairs with emphasis on the specific knowledge and skills that co-mentors bring to the mentoring group.

Interaction Focus. Mentoring research has begun to differentiate between relational and instrumental interaction focus in terms of the patterns that lead to different relational styles. Some experts advise that instrumental interactions, which focus on specific goals or tasks, lead to better youth outcomes (Jent & Niec, 2009; Rorie et al., 2011); however, other research has found that both relational and instrumental activities are associated with positive relationship development in the group mentoring setting (Herrera et al., 2000; Lyons, McQuillin, & Henderson, 2019). The current study found a relatively strong positive correlation between instrumental and relational interaction focus ($r = .43$), indicating that mentors who reported high rates of relational interactions also were likely to incorporate instrumental interactions into group sessions. Across all groups, instrumental interactions were more common than relational ones. Surprisingly, groups that focused on instrumental interactions 50% of the time or more had higher mentor-reported group cohesion. Perhaps these mentors felt that their groups had accomplished more, which may be reflective of the sense of cohesion or connection that can emerge from accomplishing a goal or completing a task together (Karcher & Nakkula, 2010). Further, mentors may focus more on group accomplishments when thinking about what it means to be a cohesive group, whereas youth might focus more on how group members get along with each other (emotional bond, group identification, etc.) There are likely important differences

between mentors' and mentees' perceptions of group cohesion that need to be addressed in future research.

In the focus groups, mentors and mentees discussed the value of instrumental interactions, specifically those that focused on goals that were salient to the mentees such as school, finances, and career. However, several participants highlighted the importance of maintaining enough flexibility in group sessions to allow mentees to have open and organic discussions. Mentors stated that these types of discussions were especially important at the beginning of the year when groups were starting to form. Karcher and Nakkula (2010) described the relationship style that emerges from an initial emphasis on relational interactions as *developmental*. In the developmental relational style, establishing the relationship before tasking mentees with instrumental goals might be an effective approach for some, but the opposite could also be true. Initial focus on identifying goals and strategies for reaching them can be motivating, and enable a strong relationship/alliance to develop, creating an *instrumental* relational style (Karcher & Nakkula, 2010). It is likely that both instrumental and relational activities are important, and that timing of each could influence outcomes. Further research is needed to uncover how sequence and/or proportion of relational and instrumental activities may affect group processes, relationship quality, and other youth outcomes.

Mentor Training. Most Project Arrive mentors (65%) attended formal mentor training either the year of data collection or the prior year. Previous research has demonstrated the importance of mentor training for developing positive relationships with mentees (Herrera et al., 2013); however, very few studies have linked mentor training to group climate and youth outcomes directly (DuBois et al., 2011). The current study found that groups with at least one mentor who attended training had higher average GPA compared with other groups. This

difference represented an increase from a C- (1.51 GPA) average to a C (1.86 GPA). This finding provides preliminary evidence that formal mentor training may increase mentors' abilities to help mentees achieve their goals and meet overall program objectives.

During focus groups, Project Arrive mentors reported that training was generally helpful in orienting them to the suggested curriculum; however, they expressed a need for more training regarding developing relationships and building group identity. Mentors stated that resources providing content-based material such as curriculum and activity ideas were less important than training on managing group conflict and developing positive group climate. Future program administrators may want to add and reinforce process-based training to existing content-based resources. More comprehensive training may lead to better group climate and relationship quality as well as youth outcomes. Future assessments of formal training should encompass both quality and focus of training. For example, intentional measurement of training related to the curriculum, behavior management, and group dynamics may shed light on the most important aspects of training for mentor effectiveness and youth outcomes.

5.2 Change mechanisms

Based on knowledge gleaned from decades of research on attachment and interpersonal theories, it is believed that human relationships are powerful forces for change in youth mentoring (Catalano et al., 2004; DuBois et al., 2011; Rhodes et al., 2006; Yalom & Leszcz, 2005). These relationships occur between individuals and at the group level (Yalom & Leszcz, 2005). Mentor-mentee relationship quality and group climate both have been identified in previous group mentoring literature as important mechanisms of change in youth outcomes (Kuperminc, 2016).

Results from Study 1 confirm the importance of relationship quality and group climate in building resilience assets. The findings suggest that when the mentor-mentee relationship is strong, school belonging improves. When mentees perceive that relationships among all members of the group are strong and incorporate connectedness, mutual help, and engagement, school belonging and self-efficacy improve. The group itself appears to be acting as a social microcosm, providing a safe context in which mentees build self-efficacy and ties to school (Yalom & Leszcz, 2005). This evidence also confirms Hartup's (1989) theory of social competence development that there is added benefit to developing close relationships with both adults and peers. It appears that these types of relationships have different and complimentary roles in youth development.

Relationship Quality. Mentor-mentee relationship quality was associated with pre-intervention school belonging such that higher school belonging at the beginning of the year led to better relationship quality throughout the year. Conceivably, students who felt more connected to school had better attendance rates and more motivation, which facilitated relationship building; however, a simple linear model may not capture the dynamics of this process. It appears that building strong relationships with mentors can foster school belonging, but students who feel connected to school already are likely better able to forge strong relationships. Indeed, qualitative data revealed that mentors found Project Arrive to be most helpful for students who were already committed to coming to school and motivated to do better. They reported that students with low attendance and motivation were more likely to skip group sessions or drop out of Project Arrive altogether, making it difficult to build mentor-mentee relationships. Although some mentors struggled to connect with mentees at the beginning of the year, relationships

steeped in respect, honesty, support, and accountability emerged as time went on and mentees and mentors remained committed to their groups.

Group Climate. In Study 1, group climate was measured at the individual level, but theoretically can be a group level construct as well. Both between and within group variation is expected due to differences between groups and individual group members' perceptions of their groups. Unfortunately, the quantitative data for individual group members' ratings of group climate was not complete enough to aggregate to a group level data point. Study 2 analyzed mentor-reported group cohesion as a Level 2 mediator, but findings did not reach significance, likely because of limitations of power due to small group size and number. Another explanation could be that mentors had different and/or biased perceptions of their group cohesion in comparison to mentees. For example, given the positive association of mentor reported cohesion with student grades, it is possible that mentors consider group accomplishments, such as improved academic performance, as a salient marker of cohesion. Mentors also tended to rate their group cohesion high (average of 4 out of 5). The small amount of variation combined with limited power for group level variables may have made it difficult to detect further effects.

Some of the richest insights into group processes came from the mentor and mentee focus group data. Specifically, the mentees completed their focus groups as intact groups and researchers were able to observe some group processes directly. For example, the two "Newcomers" groups of Latin American immigrants had well-defined group norms and rituals that they engaged in every week, including reciting the norms and rules that they agreed upon at the beginning of the semester, participating in academic check-ins, and setting goals for the next week. During focus groups, the mentees seemed to genuinely enjoy one another's company,

shared inside jokes, and described the group and the support they received there as “very important.”

The findings from the current studies demonstrate the integral nature of relationships in youth mentoring outcomes; however, recent research demonstrates that relationships alone may not be sufficient to reach program targets and that program practices likely interact with these change mechanisms to influence outcomes (Lyons et al., 2019). Additional studies examining interactions among program practices, group climate, and relationship quality in the context of group mentoring are needed to better understand all the necessary ingredients for effective group mentoring.

5.3 Strengths and Limitations

One strength of the current studies was the use of multi-level structural equation modeling to not only account for clustering of youth within mentoring groups, but to assess the potential unique contribution of these clusters to youth outcomes. The ICCs were relatively low ($\geq .10$) for school belonging and self-efficacy indicating that these resilience assets vary across individuals regardless of group membership; however, ICCs for GPA (.15) and credits (.16) were larger and indicate some group level effects. Clearly, assessing group level differences is important in group mentoring research, but small group size and number of groups make it difficult to detect these potential differences (Barile, 2016). Indeed, no Level 2 pathways were significant in either study, which may be illustrative of this limitation. As this and other studies demonstrate, mentoring groups need to be small, so future studies may focus on increasing the number of groups from which to collect data. This may be difficult given small pools of mentors and/or limited resources for supporting groups. One way to overcome these barriers is to collect data over multiple cohorts to increase sample size and number of clusters, but this strategy could

potentially introduce other threats to validity, such as history effects. Researchers must be careful to address methodological nuances related to adequate power, program limitations, and validity given specific research questions.

A mixed methods design was another strength of this study. The qualitative data provided a richer and more nuanced understanding of important aspects of group characteristics and context for interpreting the quantitative findings. Mixed methods are integral in directing future quantitative measurements and analysis in group mentoring research.

The current studies also had several limitations. Only mentees who returned completed parental consent and assent forms were included in Study 1. As such, there was likely self-selection bias in the survey sample. Students who completed consent and assent may have been more connected, responsible, and/or engaged than those who did not. Mentors also reported on many of the group characteristics after the intervention ended. Relying on memory to report group characteristics (e.g., interaction focus, cohesion) may not have been as accurate as if these variables had been measured throughout the year. There was also up to 27% missing mentor and mentee survey data for some variables, which likely introduced additional bias to the analyses even though multiple imputation was used to obtain a complete data set. Further, these results may not be generalizable to other populations, regions, and settings. Project Arrive was held in one district in California where schools were outfitted with wellness centers and other resources to support student well-being. The school setting also allowed for recruitment of mentors who had experience with youth, were connected to the school and community, and were largely degreed professionals. Additional research in different settings will help contextualize findings from the current studies.

5.4 Implications

Research. These studies replicated previous findings identifying group climate and relationship quality as central mechanisms of change in group mentoring, and provided preliminary evidence for the ways in which group characteristics and program practices can influence youth outcomes (Kuperminc, 2016). Now, researchers must be more intentional about focusing research on group structure and program practices to help gain better understanding of important ingredients for the group mentoring recipe. Are there key ingredients that will facilitate development of positive relationship quality and group climate? If we can find those, perhaps we can better define group mentoring in general and understand how and why these programs work.

Practice. Continued focus on best practices in group mentoring will also help program administrators and mentors carry out the daily tasks of administering a group mentoring program. Based on findings from the current studies, mentors and administrators may want to be more intentional about limiting the mentor-to-mentee ratio, ensuring that all mentors receive formal training that goes beyond familiarization with curriculum to include training on group processes and relationship development, and developing effective interactions that balance both instrumental and relational focus. Administrators may want to keep track of attendance and attrition rates in order to structure groups that are not too big, but that also do not become so small that group processes cease to occur and mentors feel as though their time and resources are not being well utilized. Formal mentor training should probably be mandatory and include information about group dynamics, building healthy relationships, and connecting with young people (in addition to curriculum and other standards). Mentors also may consider the benefit of emphasizing both relational and instrumental interactions for building relationships and meeting

targeted goals. Perhaps most importantly, group mentoring programs should prioritize developing positive relationships and group climate to harness the power of these change mechanisms.

Conclusion. Overall, findings from these studies confirm that group climate and mentor-mentee relationship quality are driving forces of change in group mentoring programs. In terms of key practices, it is important to understand what helps build positive relationships among all members of the mentoring group at the individual and group levels. The current studies provide preliminary evidence supporting the guidelines of Dubois and colleagues (2011) that mentor-to-mentee ratio be 1:4 or less. Smaller mentor-to-mentee ratio, formal mentor training attendance, and instrumental interaction focus may be positively related to change mechanisms and other youth outcomes. Future studies may consider more intentional measurement of program practices and group characteristics guided by qualitative findings. For example, more research is needed on bimodal effects of mentor-to-mentee ratio, types of co-mentor pairs, balance of interaction focus, and quality and focus of training. Building on findings from the current studies, future research will help clarify best practices for group mentoring programs.

References

- Ainsworth, M. S. (1989). Attachments beyond infancy. *American Psychologist*, 44(4), 709–716.
<https://doi.org/10.1037/0003-066X.44.4.709>
- Alspaugh, J. W. (1998). Achievement loss associated with the transition to middle school and high school. *The Journal of Educational Research*, 92(1), 20–25.
<https://doi.org/10.1080/00220679809597572>
- Bandura, A. (2010). Self-efficacy. *The Corsini encyclopedia of psychology*, 1-3.
<https://doi.org/10.1002/9780470479216.corpsy0836>
- Barile, J. P. (In press). Multilevel structural equation modeling. In L. A. Jason & D. S. Glenwick (Eds.), *Handbook of methodological approaches to community-based research: Qualitative, quantitative, and mixed methods*. New York, NY, US: Oxford University Press.
- Benard, B. (2004). *Resiliency: What we have learned*. San Francisco, CA: WestEd.
- Benard, B., & Slade, S. (2009). Moving from resilience research to youth development practice and school connectedness. In *Handbook of positive psychology in schools* (pp. 353-369). New York: Routledge
- Bowlby, J. (1977). The making and breaking of affectional bonds: Etiology and psychopathology in the light of attachment theory. *The British Journal of Psychiatry*, 130(3), 201–210.
<https://doi.org/10.1192/bjp.130.3.201>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Brezina, T., Kuperminc, G. P., & Tekin, E. (2016). Future selves, motivational capital, and mentoring toward college: Assessing the impact of an enhanced mentoring program for

- at-risk youth. *National Criminal Justice Reference Service*. Retrieved from <https://www.ncjrs.gov/App/Publications/abstract.aspx?ID=272660>
- Campbell, R., Shaw, J., & Gregory, K. (2017). Giving voice- and the numbers, too: Mixed methods research in community psychology. In M. Bond, I. Serrano-Garcia, & C. Keys (Eds.), *APA Handbook of Community Psychology: Methods for community research and action for diverse groups and issues* (Vol. 2, pp. 139–154). Washington, D.C.: American Psychological Association.
- Canadian Women's Foundation, & Alberta Mentoring Partnership. (2015). *Girls Group Mentoring Toolkit*. Retrieved from <http://www.mentoringgirls.ca/>
- Catalano, R. F., Berglund, M. L., Ryan, J. A. M., Lonczak, H. S., & Hawkins, J. D. (2004). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *The ANNALS of the American Academy of Political and Social Science*, 591(1), 98–124. <https://doi.org/10.1177/0002716203260102>
- Christenson, S. L., & Thurlow, M. L. (2004). School dropouts: Prevention considerations, interventions, and challenges. *Current Directions in Psychological Science*, 13(1), 36–39. <https://doi.org/10.1111/j.0963-7214.2004.01301010.x>
- Cohen, G. L., & Garcia, J. (2008). Identity, belonging, and achievement: A model, interventions, implications. *Current Directions in Psychological Science (Wiley-Blackwell)*, 17(6), 365–369. <https://doi.org/10.1111/j.1467-8721.2008.00607.x>
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.
- Dishion, T. J., & Dodge, K. A. (2005). Peer contagion in interventions for children and adolescents: Moving towards an understanding of the ecology and dynamics of change.

- Journal of Abnormal Child Psychology*, 33(3), 395–400. <https://doi.org/10.1007/s10802-005-3579-z>
- DuBois, D. L., Holloway, B. E., Valentine, J. C., & Cooper, H. (2002). Effectiveness of mentoring programs for youth: A meta-analytic review. *American Journal of Community Psychology*, 30(2), 157–197. <https://doi.org/10.1023/A:1014628810714>
- DuBois, D. L., & Karcher, M. J. (2014). *Handbook of Youth Mentoring*. Thousand Oaks, CA: Sage.
- DuBois, D. L., Portillo, N., Rhodes, J. E., Silverthorn, N., & Valentine, J. C. (2011). How effective are mentoring programs for youth? A systematic assessment of the evidence. *Psychological Science in the Public Interest*, 12(2), 57–91. <https://doi.org/10.1177/1529100611414806>
- Dynarski, M., Gleason, P., Rangarajan, A., & Wood, R. (1998). *Impacts of dropout prevention programs*. Washington, D.C.: U.S. Department of Education. Retrieved from <http://www.mathematica-mpr.com/~media/publications/pdfs/dod-fr.pdf>
- Eby, L. T., Allen, T. D., Evans, S. C., Ng, T., & DuBois, D. L. (2008). Does mentoring matter? A multidisciplinary meta-analysis comparing mentored and non-mentored individuals. *Journal of Vocational Behavior*, 72, 254–267. <https://doi.org/10.1016/j.jvb.2007.04.005>
- Flannery-Schroeder, E. C., & Kendall, P. C. (2000). Group and individual cognitive-behavioral treatments for youth with anxiety disorders: A randomized clinical trial. *Cognitive Therapy and Research*, 24(3), 251–278. <https://doi.org/10.1023/A:1005500219286>
- Fountain, D., & Arbretton, A. (1999). The cost of mentoring. In *Contemporary issues in mentoring*. Philadelphia, PA: Public/Private Ventures.

- Furlong, M. J., Ritchey, K. M., & O'Brennan, L. M. (2009). Developing norms for the California resilience youth development module: Internal assets and school resources subscales. *The California School Psychologist, 14*(1), 35–46. <https://doi.org/10.1007/BF03340949>
- Furlong, M. J., Sharkey, J. D., Quirk, M., & Dowdy, E. (2011). Exploring the protective and promotive effects of school connectedness on the relation between psychological health risk and problem behaviors/experiences. *Journal of Educational and Developmental Psychology, 1*(1), 18–34. <http://dx.doi.org/10.5539/jedp.v1n1p18>
- Garringer, M., McQuillin, S., & McDaniel, H. (2017). *Examining youth mentoring services across America: Findings from the 2016 national mentoring program survey*. MENTOR The National Mentoring Partnership. <https://doi.org/10.1080/10888691.2018.1454837>
- Gifford-Smith, M., Dodge, K. A., Dishion, T. J., & McCord, J. (2005). Peer influence in children and adolescents: Crossing the bridge from developmental to intervention science. *Journal of Abnormal Child Psychology, 33*(3), 255–265. <https://doi.org/10.1007/s10802-005-3563-7>
- Greene, J. C. (2007). *Mixed methods in social inquiry*. Hoboken, NJ: John Wiley & Sons.
- Hanson, T. L., & Kim, J.-O. (2007). Measuring resilience and youth development: The psychometric properties of the healthy kids survey. *Issues & Answers, 34*, 8-11. Retrieved from <https://eric.ed.gov/?id=ED498459>
- Hartup, W. W. (1989). Social relationships and their developmental significance. *American Psychologist, 44*(2), 120–126. <https://doi.org/10.1037/0003-066X.44.2.120>
- Herrera, C., DuBois, D. L., & Grossman, J. B. (2013). The role of risk: Mentoring experiences and outcomes for youth with varying risk profiles. *MDRC*. <https://eric.ed.gov/?id=ED544233>

- Herrera, C., Sipe, C. L., & McClanahan, W. S. (2000). Mentoring school-age children: Relationship development in community-based and school-based programs. Philadelphia, PA: Public/Private Ventures. <https://eric.ed.gov/?id=ED441066>
- Herrera, C., Vang, Z., & Gale, L. Y. (2002). Group mentoring: A study of mentoring groups in three programs. Philadelphia, PA: Public/Private Ventures. <http://eric.ed.gov/?id=ED467570>
- Jent, J., & Niec, L. (2009). Cognitive behavioral principles within group mentoring: A randomized pilot study. *Child & Family Behavior Therapy*, 31(3), 203–219. <https://doi.org/10.1080/07317100903099258>
- Joseph, H. (2018). Peer influence in group mentoring: A source of peer contagion or prosocial behavior change? (Unpublished master's thesis). Georgia State University, Atlanta, Georgia.
- Karcher, M. J., Kuperminc, G. P., Portwood, S. G., Sipe, C. L., & Taylor, A. S. (2006). Mentoring programs: A framework to inform program development, research, and evaluation. *Journal of Community Psychology*, 34(6), 709–725. <https://doi.org/10.1002/jcop.20125>
- Karcher, M. J., & Nakkula, M. J. (2010). Youth mentoring with a balanced focus, shared purpose, and collaborative interactions. *New Directions for Youth Development*, 2010(126), 13. <https://doi.org/10.1002/yd.347>
- Kuperminc, G. (2012). *Going for groups: A practical and theoretical case for group mentoring*. Presented at the Summer Institute on Youth Mentoring, Center for Interdisciplinary Mentoring Research, Portland State University, Portland, OR.

- Kuperminc, G. (2016, January). Group mentoring. Retrieved April 23, 2016, from National Mentoring Resource Center website: <http://www.nationalmentoringresourcecenter.org/index.php/what-works-in-mentoring/model-and-population-reviews.html?id=121>
- Kuperminc, G., & Cummings, L. (2010, April). *Group mentoring for culturally diverse youth: The role of group process in promoting positive peer relations*. Presentation at the biennial meeting of the Society for Research on Adolescence presented at the Biennial meeting of the Society for Research on Adolescence, Philadelphia, PA.
- Kuperminc, G. P., Chan, W. Y., & Hale, K. E. (2018). *Group mentoring for resilience: Increasing positive development and reducing involvement in the juvenile justice system* (Technical Report). The U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.
- Kuperminc, G. P., & Thomason, J. D. (2013). Group mentoring. In D. L. DuBois & M. J. Karcher (Eds.), *Handbook of youth mentoring* (2nd ed., pp. 273–290). Thousand Oaks, CA: Sage.
- Kupersmidt, J. B., Stump, K. N., Stelter, R. L., & Rhodes, J. E. (2017). Mentoring program practices as predictors of match longevity. *Journal of Community Psychology*, 45(5), 630–645. <https://doi.org/10.1002/jcop.21883>
- Lindsay-Dennis, L., Cummings, L., & McClendon, S. C. (2011). Mentors' reflections on developing a culturally responsive mentoring initiative for urban African American girls. *Black Women, Gender + Families*, 5(2), 66–92. <https://doi.org/10.5406/blacwomegendfami.5.2.0066>

- Lynch, M., Astone, M. A., Collazos, J., Lipman, M., & Esthappen, S. (2018). *Arches Transformative Mentoring Program: An implementation and impact evaluation in New York City* (Research Report). New York: Urban Institute.
- Lyons, M. D., McQuillin, S. D., & Henderson, L. J. (2019). Finding the sweet spot: Investigating the effects of relationship closeness and instrumental activities in school-based mentoring. *American Journal of Community Psychology*, 63(1–2), 88–98.
<https://doi.org/10.1002/ajcp.12283>
- Marshall, J. H., Lawrence, E. C., & Peugh, J. (2013). College women mentoring adolescent girls: The relationship between mentor peer support and mentee outcomes. *Mentoring & Tutoring: Partnership in Learning*, 21(4), 444–462.
<https://doi.org/10.1080/13611267.2013.855860>
- Martin, S. M., & Sifers, S. K. (2012). An evaluation of factors leading to mentor satisfaction with the mentoring relationship. *Children and Youth Services Review*, 34(5), 940–945.
<https://doi.org/10.1016/j.childyouth.2012.01.025>
- Masten, A. S. (2015). *Ordinary Magic: Resilience in Development*. Guilford Publications.
- Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology*, 2(4), 425–444. <https://doi.org/10.1017/S0954579400005812>
- MENTOR. (2015). Elements of effective practice for mentoring. Retrieved August 5, 2018, from <https://www.mentoring.org/program-resources/elements-of-effective-practice-for-mentoring/>

- MENTOR. (n.d.). Mentoring practice reviews. Retrieved August 10, 2018, from National Mentoring Resource Center website: <https://nationalmentoringresourcecenter.org/index.php/what-works-in-mentoring/reviews-of-mentoring-practices.html>
- Murphy, S., Soto, D., & Gopez, A. (1997). *TeamWorks evaluation report: An investigation of program process and outcomes*. Claremont, CA: Claremont McKenna College Kravis Leadership Institute.
- Muthen, B., & Asparouhov, T. (2008). Growth mixture modeling: Analysis with non-Gaussian random effects. In G. Fitzmaurice, M. Davidian, G. Verbeke, & G. Molenberghs (Eds.), *Longitudinal Data Analysis*. Boca Raton, FL: CRC Press.
- Muthen, L. K., & Muthen, B. O. (1998). *Mplus User's Guide*. Los Angeles, CA: Muthen & Muthen.
- Norcross, J. C., & Wampold, B. E. (2011). Evidence-based therapy relationships: Research conclusions and clinical practices. *Psychotherapy, 48*(1), 98–102.
<https://doi.org/10.1037/a0022161>
- Parra, G. R., DuBois, D. L., Neville, H. A., Pugh-Lilly, A. O., & Povinelli, N. (2002). Mentoring relationships for youth: Investigation of a process-oriented model. *Journal of Community Psychology, 30*(4), 367–388. <https://doi.org/https://doi.org/10.1002/jcop.10016>
- Plourde, K. F., Ippoliti, N. B., Nanda, G., & McCarraher, D. R. (2017). Mentoring interventions and the impact of protective assets on the reproductive health of adolescent girls and young women. *Journal of Adolescent Health, 61*, 131–139.
<https://doi.org/10.1016/j.jadohealth.2017.03.002>

- Preacher, K. J. (2015). Advances in mediation analysis: A survey and synthesis of new developments. *Annual Review of Psychology*, 66(1), 825–852.
<https://doi.org/10.1146/annurev-psych-010814-015258>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. <https://doi.org/10.3758/BRM.40.3.879>
- Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods*, 15(3), 209–233.
<https://doi.org/10.1037/a0020141>
- Rhodes, J. E. (2005). A model of youth mentoring. In D. DuBois & M. Karcher, *Handbook of youth mentoring* (30–43). Thousand Oaks, CA: Sage.
- Rhodes, J. E., & DuBois, D. L. (2008). Mentoring relationships and programs for youth. *Current Directions in Psychological Science*, 17(4), 254–258. <https://doi.org/10.1111/j.1467-8721.2008.00585.x>
- Rhodes, J. E., Spencer, R., Keller, T. E., Liang, B., & Noam, G. (2006). A model for the influence of mentoring relationships on youth development. *Journal of Community Psychology*, 34(6), 691–707. <https://doi.org/10.1002/jcop.20124>
- Rorie, M., Gottfredson, D. C., Cross, A., Wilson, D., & Connell, N. M. (2011). Structure and deviancy training in after-school programs. *Journal of Adolescence*, 34(1), 105–117.
<https://doi.org/10.1016/j.adolescence.2010.01.007>
- Rose, S. D. (1998). *Group therapy with troubled youth: A cognitive-behavioral interactive approach*. Thousand Oaks, CA: Sage.

- Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry*, 57(3), 316–331. <https://doi.org/10.1111/j.1939-0025.1987.tb03541.x>
- Ryan, A. M. (2001). The peer group as a context for the development of young adolescent motivation and achievement. *Child Development*, 72(4), 1135–1150. <https://doi.org/10.1111/1467-8624.00338>
- Sanchez, B., Colon-Torres, Y., Feuer, R., Roundfield, K. E., & Berardi. (2014). Race, ethnicity, and culture in mentoring relationships. In D. L. DuBois & M. J. Karcher (Eds.), *Handbook of Youth Mentoring* (2nd ed., pp. 145–158). Thousand Oaks, CA: Sage.
- Seroczynski, A. D., Evans, W. N., Jobst, A. D., Horvath, L., & Carozza, G. (2016). Reading for life and adolescent re-arrest: Evaluating a unique juvenile diversion program. *Journal of Policy Analysis and Management*, 35(3), 662–682. <https://doi.org/10.1002/pam.21916>
- Sherk, J. (2006). Designing and implementing a group mentoring program. Mentoring tactics. Folsom, CA: Center for Applied Research Solutions. Retrieved from www.mentoring.org.
- Steiner, R. J., Sheremenko, G., Lesesne, C., Dittus, P. J., Sieving, R. E., & Ethier, K. A. (2019). Adolescent Connectedness and Adult Health Outcomes. *Pediatrics*, 144(1), e20183766. <https://doi.org/10.1542/peds.2018-3766>
- Sterba, S. K. (2017). Partially nested designs in psychotherapy trials: A review of modeling developments. *Psychotherapy Research*, 27(4), 425–436. <https://doi.org/10.1080/10503307.2015.1114688>
- Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: W. W. Norton & Co.
- Tashakkori, A., & Teddlie, C. (Eds.). (2003). *Handbook of mixed methods in social & behavioral research*. Thousand Oaks, CA: Sage.

Tuckman, B. W., & Jensen, M. A. C. (2010). Stages of small-group development revisited.

Group Facilitation: A Research & Applications Journal, 10, 43–48.

<https://doi.org/10.1080/14767333.2015.1094620>

Van Dam, L., Smit, D., Wildschut, B., Branje, S. J. T., Rhodes, J. E., Assink, M., & Stams, G. J.

J. M. (2018). Does natural mentoring matter? A multilevel meta-analysis on the association between natural mentoring and youth outcomes. *American Journal of Community Psychology*, 62, 203–220.

<https://doi.org/10.1002/ajcp.12248>

Van Ryzin, M. J. (2014). Exploring relationships among boys and men: A retrospective,

qualitative study of a multi-year community-based group mentoring program. *Children and Youth Services Review*, 44, 349–355.

<https://doi.org/10.1016/j.childyouth.2014.07.002>

Wheeler, M. E., Keller, T. E., & DuBois, D. L. (2010). Review of three recent randomized trials of school-based mentoring: making sense of mixed findings. *Social Policy Report*, 24(3).

Retrieved from <https://eric.ed.gov/?id=ED519242>

Yalom, I. D., & Leszcz, M. (2005). *Theory and Practice of Group Psychotherapy* (5th edition).

New York: Basic Books.

Zhang, Z., Zyphur, M. J., & Preacher, K. J. (2009). Testing multilevel mediation using

hierarchical linear models: Problems and solutions. *Organizational Research Methods*,

12(4), 695–719. <https://doi.org/10.1177/1094428108327450>

Appendices

Appendix A: Study 1, Tables 1.07 – 1.27

Table 1.07. Group climate mediating association of mentor-to-mentee ratio (IV) and self-efficacy (DV)

		<i>b</i> (SE)
Within	Group climate → Self-efficacy (post)	.34 (0.11)**
	Self Efficacy (pre) → Self-efficacy (post)	.40 (0.10)**
Between	Mentor:Mentee Ratio → Group climate	.18 (0.66)
	Group climate → Self-efficacy (post)	-.71 (1.82)
	Mentor:Mentee Ratio → Self-efficacy (post)	.23 (1.23)
	Indirect Effect	-.04 (0.79)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	1.34 (1)
	CFI	.99
	SRMR (b/t)	.05
Intraclass <i>r</i>	Group climate	.06
	Self-efficacy	.07

Note: ***p* < .01

Table 1.08. Group climate mediating association of interdisciplinary mentors (IV) and self-efficacy (DV)

		<i>b</i> (SE)
Within	Group climate → Self-efficacy (post)	.37 (0.12)**
	Self Efficacy (pre) → Self-efficacy (post)	.36 (0.10)**
Between	Interdisciplinary mentors → Group climate	.04 (0.13)
	Group climate → Self-efficacy (post)	-.66 (1.20)
	Interdisciplinary mentors → Self-efficacy (post)	.01 (.19)
	Indirect Effect	-.02 (0.11)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	1.02 (1)
	CFI	.99
	SRMR (b/t)	.05
Intraclass <i>r</i>	Group climate	.06
	Self-efficacy	.06

Note: ***p* < .01

Table 1.09. Group climate mediating association of instrumental focus (IV) and self-efficacy (DV)

		<i>b</i> (SE)
Within	Group climate → Self-efficacy (post)	.37 (0.11)**
	Self Efficacy (pre) → Self-efficacy (post)	.36 (0.10)**
Between	Instrumental focus → Group climate	-.05 (0.09)
	Group climate → Self-efficacy (post)	-.40 (1.38)
	Instrumental focus → Self-efficacy (post)	.04 (.15)
	Indirect Effect	.02 (0.10)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	1.26 (1)
	CFI	.98
	SRMR (b/t)	.05
Intraclass <i>r</i>	Group climate	.06
	Self-efficacy	.04

Note: ***p* < .01

Table 1.10. Group climate mediating association of relational focus (IV) and self-efficacy (DV)

		<i>b</i> (SE)
Within	Group climate → Self-efficacy (post)	.37 (0.11)**
	Self Efficacy (pre) → Self-efficacy (post)	.37 (0.10)**
Between	Relational focus → Group climate	-.09 (0.07)
	Group climate → Self-efficacy (post)	-.46 (3.41)
	Relational focus → Self-efficacy (post)	.05 (.39)
	Indirect Effect	.05 (0.38)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	.99 (1)
	CFI	.99
	SRMR (b/t)	.05
Intraclass <i>r</i>	Group climate	.06
	Self-efficacy	.07

Note: ***p* < .01

Table 1.11. Group climate mediating association of mentor training (IV) and self-efficacy (DV)

		<i>b</i> (SE)
Within	Group climate → Self-efficacy (post)	.36 (0.11)**
	Self Efficacy (pre) → Self-efficacy (post)	.37 (0.10)**
Between	Mentor training → Group climate	-.01 (0.15)
	Group climate → Self-efficacy (post)	-.53 (1.29)
	Mentor training → Self-efficacy (post)	-.25 (.19)
	Indirect Effect	.02 (0.12)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	5.46 (1)
	CFI	.95
	SRMR (b/t)	.05
Intraclass <i>r</i>	Group climate	.06
	Self-efficacy	.10

Note: ***p* < .01

Table 1.12. Group climate mediating association of mentor-to-mentee ratio (IV) school belonging (DV)

		<i>b</i> (SE)
Within	Group climate → School belonging (post)	.56 (0.20)**
	School belonging (pre) → Group climate	.21 (0.09)*
	School belonging (pre) → School belonging (post)	.62 (0.21)**
Between	Mentor:Mentee Ratio → Group climate	.18 (0.66)
	Group climate → School belonging (post)	-.71 (1.82)
	Mentor:Mentee Ratio → School belonging (post)	.23 (1.23)
	Indirect Effect	-.04 (0.79)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	1.34 (1)
	CFI	.99
	SRMR (b/t)	.05
Intraclass <i>r</i>	Group climate	.06
	School belonging	.03

Note: **p* < .05; ***p* < .01

Table 1.13. Group climate mediating association of interdisciplinary mentors (IV) and school belonging (DV)

		<i>b</i> (SE)
Within	Group climate → School belonging (post)	.57 (0.18)**
	School belonging (pre) → Group climate	.17 (0.10)
	School belonging (pre) → School belonging (post)	.62 (0.15)**
Between	Interdisciplinary mentors → Group climate	-.01 (0.13)
	Group climate → School belonging (post)	-.34 (14.54)
	Interdisciplinary mentors → School belonging (post)	-.03 (0.73)
	Indirect Effect	.00 (0.68)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	0.06 (0)
	CFI	.99
	SRMR (b/t)	.05
Intraclass <i>r</i>	Group climate	.07
	School belonging	.04

Note: ***p* < .01

Table 1.14. Group climate mediating association of instrumental focus (IV) and school belonging (DV)

		<i>b</i> (SE)
Within	Group climate → School belonging (post)	.56 (0.19)**
	School belonging (pre) → Group climate	.17 (0.26)
	School belonging (pre) → School belonging (post)	.62 (0.56)
Between	Instrumental focus → Group climate	-.07 (0.14)
	Group climate → School belonging (post)	-.26 (5.63)
	Instrumental focus → School belonging (post)	-.10 (0.56)
	Indirect Effect	.02 (0.25)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	0.09 (0)
	CFI	.99
	SRMR (b/t)	.05
Intraclass <i>r</i>	Group climate	.07
	School belonging	.05

Note: ***p* < .01

Table 1.15. Group climate mediating association of relational focus (IV) and school belonging (DV)

		<i>b</i> (SE)
Within	Group climate → School belonging (post)	.57 (0.18)**
	School belonging (pre) → Group climate	.15 (0.30)
	School belonging (pre) → School belonging (post)	.62 (0.15)**
Between	Relational focus → Group climate	-.08 (0.09)
	Group climate → School belonging (post)	-.73 (61.42)
	Relational focus → School belonging (post)	-.05 (5.88)
	Indirect Effect	.07 (5.87)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	0.08 (0)
	CFI	.99
	SRMR (b/t)	.05
Intraclass <i>r</i>	Group climate	.07
	School belonging	.05

Note: ** $p < .01$

Table 1.16. Group climate mediating association of mentor training (IV) and school belonging (DV)

		<i>b</i> (SE)
Within	Group climate → School belonging (post)	.57 (0.17)**
	School belonging (pre) → Group climate	.17 (0.09)
	School belonging (pre) → School belonging (post)	.60 (0.12)**
Between	Mentor training → Group climate	-.08 (0.15)
	Group climate → School belonging (post)	-.30 (5.41)
	Mentor training → School belonging (post)	.09 (.38)
	Indirect Effect	.02 (.28)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	0.09 (0)
	CFI	.99
	SRMR (b/t)	.05
Intraclass <i>r</i>	Group climate	.07
	School belonging	.04

Note: ** $p < .01$

Table 1.17. Relationship quality mediating association of mentor-to-mentee ratio (IV) and self-efficacy (DV)

		<i>b</i> (SE)
Within	Relationship quality → Self-efficacy (post)	.09 (0.11)
	Self Efficacy (pre) → Self-efficacy (post)	.41 (0.11)**
Between	Mentor:Mentee Ratio → Relationship quality	.59 (0.64)
	Relationship quality → Self-efficacy (post)	-.40 (2.16)
	Mentor:Mentee Ratio → Self-efficacy (post)	.46 (1.60)
	Indirect Effect	-.17 (1.25)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	2.93 (1)
	CFI	.92
	SRMR (b/t)	.05
Intraclass <i>r</i>	Relationship quality	.01
	Self-efficacy	.07

Note: ***p* < .01

Table 1.18. Relationship quality mediating association of interdisciplinary mentors (IV) and self-efficacy (DV)

		<i>b</i> (SE)
Within	Relationship quality → Self-efficacy (post)	.10 (0.11)
	Self Efficacy (pre) → Self-efficacy (post)	.38 (0.11)**
Between	Interdisciplinary mentors → Relationship quality	.02 (0.13)
	Relationship quality → Self-efficacy (post)	-.30 (1.99)
	Interdisciplinary mentors → Self-efficacy (post)	.00 (0.17)
	Indirect Effect	.00 (0.10)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	1.78 (1)
	CFI	.92
	SRMR (b/t)	.06
Intraclass <i>r</i>	Relationship quality	.01
	Self-efficacy	.06

Note: ***p* < .01

Table 1.19. Relationship quality mediating association of instrumental focus (IV) and self-efficacy (DV)

		<i>b</i> (SE)
Within	Relationship quality → Self-efficacy (post)	.10 (0.11)
	Self Efficacy (pre) → Self-efficacy (post)	.38 (0.11)**
Between	Instrumental focus → Relationship quality	.07 (0.08)
	Relationship quality → Self-efficacy (post)	-.45 (1.56)
	Instrumental focus → Self-efficacy (post)	.09 (0.16)
	Indirect Effect	-.03 (0.12)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	3.62 (1)
	CFI	.90
	SRMR (b/t)	.05
Intraclass <i>r</i>	Relationship quality	.01
	Self-efficacy	.03

Note: ***p* < .01

Table 1.20. Relationship quality mediating association of relational focus (IV) and self-efficacy (DV)

		<i>b</i> (SE)
Within	Relationship quality → Self-efficacy (post)	.10 (0.11)
	Self Efficacy (pre) → Self-efficacy (post)	.38 (0.11)**
Between	Relational focus → Relationship quality	.04 (0.08)
	Relationship quality → Self-efficacy (post)	-.27 (1.68)
	Relational focus → Self-efficacy (post)	.10 (0.13)
	Indirect Effect	-.01 (0.10)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	2.55 (1)
	CFI	.91
	SRMR (b/t)	.06
Intraclass <i>r</i>	Relationship quality	.02
	Self-efficacy	.07

Note: ***p* < .01

Table 1.21. Relationship quality mediating association of mentor training (IV) and self-efficacy (DV)

		<i>b</i> (SE)
Within	Relationship quality → Self-efficacy (post)	.11 (0.11)
	Self Efficacy (pre) → Self-efficacy (post)	.38 (0.11)**
Between	Mentor training → Relationship quality	.06 (0.15)
	Relationship quality → Self-efficacy (post)	-.32 (3.56)
	Mentor training → Self-efficacy (post)	-.23 (0.23)
	Indirect Effect	-.01 (0.19)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	1.27 (1)
	CFI	.97
	SRMR (b/t)	.05
Intraclass <i>r</i>	Relationship quality	.01
	Self-efficacy	.09

Note: ***p* < .01

Table 1.22. Relationship quality mediating association of mentor-to-mentee ratio (IV) and school belonging (DV)

		<i>b</i> (SE)
Within	Relationship quality → School belonging (post)	.29 (0.15)*
	School belonging (pre) → Relationship quality	.68 (0.12)**
	School belonging (pre) → School belonging (post)	.21 (0.08)**
Between	Mentor:Mentee Ratio → Relationship quality	.73 (0.68)
	Relationship quality → School belonging (post)	.01 (2.45)
	Mentor:Mentee Ratio → School belonging (post)	-.59 (2.51)
	Indirect Effect	.03 (2.17)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	.06 (0)
	CFI	.99
	SRMR (b/t)	.04
Intraclass <i>r</i>	Relationship quality	.03
	School belonging	.03

Note: **p* < .05; ***p* < .01

Table 1.23. Relationship quality mediating association of interdisciplinary mentors (IV) and school belonging (DV)

		<i>b</i> (SE)
Within	Relationship quality → School belonging (post)	.31 (0.15)*
	School belonging (pre) → Relationship quality	.66 (0.13)**
	School belonging (pre) → School belonging (post)	.18 (0.08)*
Between	Interdisciplinary mentors → Relationship quality	-.02 (0.13)
	Relationship quality → School belonging (post)	-.17 (1.34)
	Interdisciplinary mentors → School belonging (post)	-.04 (0.46)
	Indirect Effect	.01 (0.07)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	.05 (0)
	CFI	.99
	SRMR (b/t)	.04
Intraclass <i>r</i>	Relationship quality	.03
	School belonging	.04

Note: * $p < .05$; ** $p < .01$

Table 1.24. Relationship quality mediating association of instrumental focus (IV) and school belonging (DV)

		<i>b</i> (SE)
Within	Relationship quality → School belonging (post)	.31 (0.15)*
	School belonging (pre) → Relationship quality	.65 (0.13)**
	School belonging (pre) → School belonging (post)	.18 (0.08)*
Between	Instrumental focus → Relationship quality	.05 (0.08)
	Relationship quality → School belonging (post)	-.09 (1.60)
	Instrumental focus → School belonging (post)	-.08 (0.20)
	Indirect Effect	.00 (1.18)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	.07 (0)
	CFI	.99
	SRMR (b/t)	.05
Intraclass <i>r</i>	Relationship quality	.03
	School belonging	.04

Note: * $p < .05$; ** $p < .01$

Table 1.25. Relationship quality mediating association of relational focus (IV) and school belonging (DV)

		<i>b</i> (SE)
Within	Relationship quality → School belonging (post)	.30 (0.15)*
	School belonging (pre) → Relationship quality	.65 (0.11)**
	School belonging (pre) → School belonging (post)	.19 (0.07)*
Between	Relational focus → Relationship quality	.06 (0.09)
	Relationship quality → School belonging (post)	-.10 (1.13)
	Relational focus → School belonging (post)	.02 (0.19)
	Indirect Effect	.00 (.07)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	.06 (0)
	CFI	.99
	SRMR (b/t)	.05
Intraclass <i>r</i>	Relationship quality	.05
	School belonging	.04

Note: * $p < .05$; ** $p < .01$

Table 1.26. Relationship quality mediating association of mentor training (IV) and school belonging (DV)

		<i>b</i> (SE)
Within	Relationship quality → School belonging (post)	.30 (0.15)*
	School belonging (pre) → Relationship quality	.65 (0.11)**
	School belonging (pre) → School belonging (post)	.18 (0.08)*
Between	Mentor training → Relationship quality	.01 (0.16)
	Relationship quality → School belonging (post)	-.13 (1.80)
	Mentor training → School belonging (post)	.09 (0.28)
	Indirect Effect	.01 (.16)
		Est.
Model Fit	Chi Sq. (<i>df</i>)	.07 (0)
	CFI	.99
	SRMR (b/t)	.04
Intraclass <i>r</i>	Relationship quality	.03
	School belonging	.03

Note: * $p < .05$; ** $p < .01$

Table 1.27 Themes, subthemes, and examples extracted from all coded focus groups

Theme	Subtheme	Type of participant	Example quotes
Mentor-mentee relationships	Respect	Mentor	"I think it's the way that we deliver too. So, it's not coming, it's a non-authoritative way and it's referring back to the community agreement and how we want to respect the space and they're a lot more open to that than if we were like, 'We're really mad at you!' and, 'You're not listening!'"
		Mentee	"Oh yeah, they ask us what we want to talk about? We might have something planned, but if you want to talk about something else, we can."
	Support	Mentor	"I was thinking do I want to do this next year? Cause I am so busy, but what I get in return and what they get in return, which is more important is that they have somewhere that they are able to be free and speak about whatever they want."
		Mentee	"Well, if you're having a bad day, then obviously you go to [mentor]. It's cool."
	Accountability	Mentor	"They know to expect that I'm going to be checking on their grades. Part of that is also being able to problem solve and talk to teachers about their assignments which they have. One student came in late Friday because when I printed his grade out there was a C on it. Then when he came in he's like 'Sorry I'm late, I was talking to the teacher and I have an A in that class now because I turned in all the work.' Just so when he came in here that's like taken care of."
		Mentee	"Yeah, like they'll give us information and then they'll ask for feedback to see if we really get it or if we're just like, you know..."
Group climate	Cohesion	Mentor	"I really like watching the groups form. They come in as individuals and maybe they know each other a little bit, but then all the sudden they gel and um, you see them hanging out outside. That's what I like about it."
		Mentee	"We're connected. We feel good because when someone has an opinion, we include them. We don't leave anyone out." (translated from Spanish)
	Mutual help	Mentor	"My group is like a little family. You know. We spend a lot of time together. We joke around. We help each other out. You can tell when someone's having a bad day, and we gather around and support that person. In the beginning it took a while to get there...and now I see them at lunch, tapping in and helping each other out and kinda building their own communities."
		Mentee	"Well, we're friends here so, you know, if I'm getting bugged about something I could ask them for help."
	Respect	Mentor	"They really wanted respect. And through that, they

Group interactions	Curriculum	Mentee	<p>learned to become more and more comfortable, and they give each other more and more advice. And I'm very pleasantly pleased to see how they developed in their relationships with each other. In their respectfulness."</p> <p>"[In this group], we don't use cell phones, say bad words, or talk about something off topic...And we speak one person at a time." (translated from Spanish)</p>
		Mentor	<p>"To me the curriculum there if you're not getting what you really want. Because usually if it's a really innovative group they're basically saying I want to talk about this and that what they basically talk about. The curriculum is there for me. It's there if you don't know where to go if you are a group leader. Or you don't know what to do. That's how I look at it. Or, if you want something that the group really needs, then you can start with that. Because you can start with that thing and it can go a whole different way."</p>
	Relational focus	Mentor	<p>"Some of our most powerful groups have been when we've left some space for students to say what's on their minds. So then we build on that and we push on that and we see there's an opportunity to teach more about this and to teach more about this. And all that."</p>
		Mentee	<p>"We talk about stuff that happens in our life and how we overcame it."</p>
	Instrumental focus	Mentor	<p>"One of the things that comes to mind for me that we did last year and we did again this year is binder checks-binder organization. We put the music on; we take out our backpacks; we have dividers; we help each other out. And that really started the conversation of, 'How are your classes? Lets check School Loop.' That was really positive. They definitely appreciated that time to organize and seeing the difference of how it felt."</p>
Mentor training	Boundaries	Mentee	<p>"Every Thursday they give us a paper to see if we have improved in classes...And if everyone earned an A or none of us have an F, we go to get ice cream."</p>
		Mentor	<p>"I've definitely found when we show up and there's not enough structure that things don't go as well. Like, it gets quickly derailed into smack-talk, or you know, jokes."</p>
	Feedback	Mentor	<p>"She went over like, the binder. I think there's never enough time in these meetings. So what would have been nice is to have a little bit more. But I think having the curriculum binder in front of us, and kind of going what sort of experience everyone was coming in with was helpful, because there were some folks who had very recently worked with youth, some hadn't worked with them in a while, and different ways that people had worked with them in the past. So maybe getting a little more into the curriculum, ahead of time, and just like behavior management strategies."</p>
Co-mentors	Interdisciplinary positions	Mentor	<p>"I think that having the closer connection with counseling has been awesome, like I really like being able to meet more often than just at our staff meeting. Getting to know [name] and some of the other counselors has been really great to have just a better community; just a closer</p>

Challenges	Sharing ideas	Mentee	<p>connection through wellness and counseling at the school has been really nice.”</p> <p>“Oh yeah. Like [mentor 1], he can’t give you motivation, but he’ll be straight up with you like ‘Ah, you failin’. You goin’ to summer school now, so you better get yo ass up and start doing this.’ But [mentor 2] will be like, “What are we gonna do to not go to summer school? What are we gonna do to prevent it?” And [mentor 1] will just tell you how it is, which I think works better sometimes because we get two points of view.”</p>
		Mentor	<p>“Me and [mentor]..., we even share an office. So like, we’re constantly bouncing ideas. She’s [name]’s partner and they’re constantly bouncing ideas.”</p>
		Mentor	<p>“I think that for a group it’s good to have two [mentors]. If I didn’t have [name] I’d feel a lot more...I feel like it would be a lot more firm and iron-fisted because I think there’s a lot more of them than me. I think definitely just having someone else that you trust really gives you a lot more confidence in being more assertive in what you want to achieve with the kids.”</p>
	Group size and attrition	Mentor	<p>“I think part of the thing with this year’s group was that we had a lot of boys with a lot of needs and only two boys groups. So I think the mentors are being stretched too thin. I’m sure you guys are feeling that too... but it’s just we put a lot on them...So if we had the capacity to have an additional group to make the numbers smaller, I think that in and of itself could help a lot. Same for the girls, but I think that naturally happened as the year went on. Like a lot of the groups got smaller.</p>
		Mentor	<p>“But you don’t want the groups to get too big, because it’s a mentoring thing. We’re trying to mentor the early warning, cuz there’s reasons why they’re in these groups. In these numbers. I mean yeah, two facilitators for three students is way too much resource, yes, but not going over ten is ideal because as a counselor, working with students in groups it can get a little too much.”</p>
	Limitations of reach	Mentor	<p>“I think one of the things we were thinking about for next year, is looking at students who had a high attendance and low grades. Cause I think the kids who had really high truancy or very low attendance and very low grades, those are kids who need a level up anyways. Like they need a case manager, they need something else. And that’s kind of who’s dropped out of the groups. Whereas the kids who have high attendance, like they are in school every day but their grades are just low, those are the kids who like would be swayed by some kind of motivational group. I don’t think the other kids are always swayed by a motivational group. They need like another kind of wake-up call that is not Project Arrive I think”</p>
Mentee		<p>“I’m gonna be honest. This group, I don’t know, I’m not blaming this group. It’s like ever since I started I’m still doing the same thing as I do usually, it’s not the groups fault but,...it’s like I don’t have no motivation. And I need motivation to do my work because the way I think about it, school is nothing right now for me personally. But I’m</p>	

School belonging	Connecting support across personnel	Mentor	trying to do my best, I'm trying to do my work and stuff, but it's not helping."
			"We use every resource that we have on campus. We use the teachers. We use the secretaries just to get information. We use parents, getting communication from the parents when we see them...We use the different bodies of people. We use our advisors...just being able to use the people that we have here. We refer them to wellness just because of the stuff that we talk about, we use the stuff that we have on campus too. Introduce that, like uh, with the skateboard, we had some students who are skateboarding, but now that we have an OC club, we are making skateboards within our woodshop. They might be interested in something like that. Just to put an idea in their head. Just using the different stuff we have at school and bringing it into group.
	Wellness centers	Mentee	"[The mentors] speak with our teachers and ask them about homework we can do. I had an F because I had not done a task. And she went, well, we both went..and asked the teacher to give me the work I had not done. And, then I did it." (translated from Spanish)
			"They stay within this healthy school setting where they have wellness centers, and you're not on the street with idle time. That...really kind of gave kids who didn't see the importance in that to be like, 'Damn, well this will help me avoid what I'm avoiding at home, in my neighborhood,' and that's where we saw turn-ups of kids coming to school."
Academic self-efficacy		Mentor	"They know to expect that I'm going to be checking on their grades. Part of that is also being able to problem solve and talk to teachers about their assignments which they have. One student came in late Friday because when I printed his grade out there was a C on it. Then, when he came in, he's like "Sorry I'm late, I was talking to the teacher and I have an A in that class now because I turned in all the work." Just so when he came in here, that's like taken care of. "
		Mentee	"Like in the beginning of the group I had all F's. Straight up F's. And then after the group I used to talk to the, like [mentor] would tell me to do my work and about consequences and stuff like that. So, I started to do my work and then my grades got better. Like even in the easy classes I was failing. So he was saying if you have an F, just bring it up to a D. It's probably not possible to get an A, but just try a D first, so you can pass. Then after you get a D, go for a C."

Appendix B: Study 2, Tables 2.06 – 2.15

Table 2.06. Group cohesion mediating association of mentor-to-mentee ratio (IV) and GPA (DV)

		<i>b</i> (SE)
Within	GPA (pre) → GPA (post)	.55 (0.08)**
Between	Mentor-to-mentee ratio → Group cohesion	-2.47 (1.29)
	Group cohesion → GPA (Post)	.09 (.10)
	Mentor-to-mentee ratio → GPA (post)	.72 (.64)
	Indirect Effect	-.22 (0.28)
		Est.
Intraclass <i>r</i>	GPA (Post)	.16

Note: ** $p < .01$; models are just identified

Table 2.07. Group cohesion mediating association of interdisciplinary co-mentors (IV) and GPA (DV)

		<i>b</i> (SE)
Within	GPA (pre) → GPA (post)	.56 (0.07)**
Between	Interdisciplinary co-mentors → Group cohesion	-.04 (0.31)
	Group cohesion → GPA (Post)	.06 (.09)
	Interdisciplinary co-mentors → GPA (post)	.11 (.18)
	Indirect Effect	.00 (0.02)
		Est.
Intraclass <i>r</i>	GPA (Post)	.15

Note: ** $p < .01$; models are just identified

Table 2.08. Group cohesion mediating association of instrumental focus (IV) and GPA (DV)

		<i>b</i> (SE)
Within	GPA (pre) → GPA (post)	.56 (0.07)**
Between	Instrumental focus → Group cohesion	.33 (0.22)
	Group cohesion → GPA (Post)	.09 (.09)
	Instrumental focus → GPA (post)	-.10 (.13)
	Indirect Effect	.03 (0.04)
		Est.
Intraclass <i>r</i>	GPA (Post)	.15

Note: ** $p < .01$; models are just identified

Table 2.09. Group cohesion mediating association of relational focus (IV) and GPA (DV)

		<i>b</i> (SE)
Within	GPA (pre) → GPA (post)	.56 (0.07)**
Between	Relational focus → Group cohesion	.18 (0.18)
	Group cohesion → GPA (Post)	.08 (.09)
	Relational focus → GPA (post)	-.12 (.13)
	Indirect Effect	.01 (0.02)
		Est.
Intraclass <i>r</i>	GPA (Post)	.15

Note: ***p* < .01; models are just identified

Table 2.10. Group cohesion mediating association of mentor training (IV) and GPA (DV)

		<i>b</i> (SE)
Within	GPA (pre) → GPA (post)	.56 (0.07)**
Between	Training → Group cohesion	-.16 (0.32)
	Group cohesion → GPA (Post)	.07 (.09)
	Training → GPA (post)	.27 (.21)
	Indirect Effect	-.01 (0.03)
		Est.
Intraclass <i>r</i>	GPA (Post)	.15

Note: ***p* < .01; models are just identified

Table 2.11. Group cohesion mediating association of mentor-to-mentee ratio (IV) and academic credits (DV)

		<i>b</i> (SE)
Within	Credits (pre) → Credits (post)	.61 (0.12)**
Between	Mentor-to-mentee ratio → Group cohesion	-2.47 (1.29)
	Group cohesion → Credits (Post)	.75 (1.34)
	Mentor-to-mentee ratio → Credits (post)	5.91 (9.28)
	Indirect Effect	-1.92 (3.67)
		Est.
Intraclass <i>r</i>	Credits (Post)	.16

Note: ***p* < .01; models are just identified

Table 2.12. Group cohesion mediating association of interdisciplinary co-mentors (IV) and academic credits (DV)

		<i>b</i> (SE)
Within	Credits (pre) → Credits (post)	.61 (0.12)**
Between	Interdisciplinary co-mentors → Group cohesion	-.04 (0.31)
	Group cohesion → Credits (Post)	.52 (1.21)
	Interdisciplinary co-mentors → Credits (post)	2.19 (2.15)
	Indirect Effect	-.02 (.25)
		Est.
Intraclass <i>r</i>	Credits (Post)	.16

Note: ***p* < .01; models are just identified

Table 2.12. Group cohesion mediating association of interdisciplinary co-mentors (IV) and academic credits (DV)

		<i>b</i> (SE)
Within	Credits (pre) → Credits (post)	.61 (0.12)**
Between	Interdisciplinary co-mentors → Group cohesion	-.04 (0.31)
	Group cohesion → Credits (Post)	.52 (1.21)
	Interdisciplinary co-mentors → Credits (post)	2.19 (2.15)
	Indirect Effect	-.02 (.25)
		Est.
Intraclass <i>r</i>	Credits (Post)	.16

Note: ***p* < .01; models are just identified

Table 2.13. Group cohesion mediating association of instrumental focus (IV) and academic credits (DV)

		<i>b</i> (SE)
Within	Credits (pre) → Credits (post)	.61 (0.12)**
Between	Instrumental focus → Group cohesion	.33 (0.22)
	Group cohesion → Credits (Post)	.49 (1.26)
	Instrumental focus → Credits (post)	.28 (1.65)
	Indirect Effect	.16 (.46)
		Est.
Intraclass <i>r</i>	Credits (Post)	.16

Note: ***p* < .01; models are just identified

Table 2.14. Group cohesion mediating association of relational focus (IV) and academic credits (DV)

		<i>b</i> (SE)
Within	Credits (pre) → Credits (post)	.62 (0.12)**
Between	Relational focus → Group cohesion	.18 (0.18)
	Group cohesion → Credits (Post)	.73 (1.19)
	Relational focus → Credits (post)	-1.37 (1.57)
	Indirect Effect	.13 (.26)
		Est.
Intraclass <i>r</i>	Credits (Post)	.15

Note: ** $p < .01$; models are just identified

Table 2.15. Group cohesion mediating association of mentor training (IV) and academic credits (DV)

		<i>b</i> (SE)
Within	Credits (pre) → Credits (post)	.61 (0.12)**
Between	Mentor training → Group cohesion	-.16 (0.32)
	Group cohesion → Credits (Post)	.65 (1.23)
	Mentor training → Credits (post)	2.00 (2.58)
	Indirect Effect	-.11 (.35)
		Est.
Intraclass <i>r</i>	Credits (Post)	.16

Note: ** $p < .01$; models are just identified

Appendix C: Pre-program (Fall) Mentee Survey



Project Arrive Student Survey/Pre-Test

Welcome to the Project Arrive Student Survey! Georgia State University and the San Francisco Unified School District are working together to conduct a research study about Project Arrive. Your information will help us learn about how being part of Project Arrive affects your development through your 9th grade year. With your help we will be able to make the program even better in the future.

First, please answer a few questions about yourself.

1. What year were you born?

a. 1998 or before	c. 2000
b. 1999	d. 2001
2. What month were you born?

a. January	g. July
b. February	h. August
c. March	i. September
d. April	j. October
e. May	k. November
f. June	l. December
3. What is your sex?
 - a. Male
 - b. Female
4. Are you of Hispanic or Latino origin?
 - a. Yes
 - b. No
5. What is your race?
 - a. American Indian or Alaska Native
 - b. Asian
 - c. Black or African American
 - d. Native Hawaiian or Pacific Islander
 - e. White
 - f. Mixed (two or more) races
6. What best describes where you live? A home includes a house, apartment, trailer, or mobile home.
 - a. A home with both parents
 - b. A home with only one parent
 - c. Other relative's home
 - d. A home with more than one family
 - e. Friend's home
 - f. Foster home, group care, or waiting placement
 - g. Hotel or motel
7. Do you get or are you eligible for a free or reduced-price lunch at your school?
 - a. Free lunch
 - b. Reduced-price lunch

c. Neither

These next questions are about how you feel about yourself.

For each statement, indicate how true you feel these statements are about you.

	False	Somewhat False	Not Sure	Somewhat True	True
1. I usually think of myself as a happy person.	1	2	3	4	5
2. In reality I don't like myself very much.	1	2	3	4	5
3. I'm not very sure of myself.	1	2	3	4	5
4. I'm the kind of person who has a lot of fun.	1	2	3	4	5
5. I worry too much about things that aren't important.	1	2	3	4	5
6. I often feel sad or unhappy.	1	2	3	4	5
7. I usually feel I'm the kind of person I want to be.	1	2	3	4	5

For each statement, indicate how often you experience the following emotions.

	Never	Not Often	Sometimes	Often	Almost Always
8. I feel nervous or afraid that things won't work out the way I would like them to.	1	2	3	4	5
9. I feel lonely.	1	2	3	4	5
10. I get into such a bad mood that I just feel like sitting around and doing nothing.	1	2	3	4	5
11. In recent years, I have felt more nervous or worried about things than I have needed to.	1	2	3	4	5
12. I feel very happy.	1	2	3	4	5

The next questions are about how you feel about yourself and others.

For each statement, indicate how true you feel these statements are about you.

	Not at all true	A little true	Pretty much true	Very much true
1. I can work with someone who has different opinions than mine.	1	2	3	4
2. I can work out my problems.	1	2	3	4
3. I can do most things I try.	1	2	3	4
4. There are many things I do well.	1	2	3	4
5. I feel bad when someone gets their feelings hurt.	1	2	3	4
6. I try to understand what other people go through.	1	2	3	4
7. I try to understand what other people feel and think.	1	2	3	4
8. When I need help I find someone to talk with.	1	2	3	4
9. I try to work out my problems by talking or writing about them.	1	2	3	4
10. There is purpose to my life.	1	2	3	4
11. I understand my moods and feelings.	1	2	3	4
12. I understand why I do what I do.	1	2	3	4

Please indicate how many times you did each of these things in the last 7 days.

	None	1 Time	2-3 Times	4-5 Times	6+ Times
1. I teased students to make them angry.	0	1	2-3	4-5	6+
2. I got angry very easily with someone.	0	1	2-3	4-5	6+
3. I fought back when someone hit me first.	0	1	2-3	4-5	6+
4. I said things about a kid to make other students laugh.	0	1	2-3	4-5	6+
5. I encouraged other students to fight.	0	1	2-3	4-5	6+
6. I pushed or shoved other kids.	0	1	2-3	4-5	6+
7. I was angry most of the day.	0	1	2-3	4-5	6+
8. I got into a physical fight because I was angry.	0	1	2-3	4-5	6+
9. I slapped or kicked someone.	0	1	2-3	4-5	6+
10. I called other students bad names.	0	1	2-3	4-5	6+
11. I threatened to hurt or hit someone.	0	1	2-3	4-5	6+

The next questions are about your academic future.

- If you could do exactly what you wanted, how far would you go in school?
 - 9th – 11th grade
 - Graduate high school
 - Post high school, vocational, or tech training
 - Some college
 - Business college, or two-year associates degree
 - Graduate from a four-year college
 - Get a Master's degree or teaching credential
 - Get a law degree, PhD, or medical doctor's degree
- We can't always do what we most want to do. How far do you think you will actually go in school?
 - 9th – 11th grade
 - Graduate high school
 - Post high school, vocational, or tech training
 - Some college
 - Business college, or two-year associates degree
 - Graduate from a four-year college
 - Get a Master's degree or teaching credential
 - Get a law degree, PhD, or medical doctor's degree

These next questions are about your ethnic group membership.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I have spent time trying to find out more about my ethnic group, such as history, traditions, and customs.	1	2	3	4	5
2. I have a strong sense of belonging to my own ethnic group.	1	2	3	4	5
3. I understand pretty well what my ethnic group membership means to me.	1	2	3	4	5
4. I have often done things that will help me understand my ethnic background better.	1	2	3	4	5

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
5. I have often talked to other people in order to learn more about my ethnic group.	1	2	3	4	5
6. I feel a strong sense of attachment towards my own ethnic group.	1	2	3	4	5
7. Most of my friends belong to my ethnic group.	1	2	3	4	5

The next questions are about how you think feel about yourself academically. For each statement, indicate how true you feel these statements are about your personally.

	Not true	A little true	Often true	Always true
1. I am good at my schoolwork.	1	2	3	4
2. I am just as smart as other people my age.	1	2	3	4
3. I am slow in finishing my schoolwork.	1	2	3	4
4. I do my class work well.	1	2	3	4
5. I have trouble figuring out the answers in school.	1	2	3	4

For these next questions, please indicate how strongly you agree or disagree with the following statements about your school.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I feel close to people at this school.	1	2	3	4	5
2. I am happy to be at this school.	1	2	3	4	5
3. I feel like I am part of this school.	1	2	3	4	5
4. The teachers at this school treat students fairly.	1	2	3	4	5
5. I feel safe in my school.	1	2	3	4	5

These next questions ask about cigarette smoking. For each question, please remember to answer honestly.

1. Have you ever tried cigarette smoking, even one or two puffs?
 - a. Yes
 - b. No

If you responded "Yes" to the previous question, please answer the following two questions:

2. During the past 30 days, on how many days did you smoke cigarettes?

a. 0 days	e. 10 to 19 days
b. 1 or 2 days	f. 20 to 29 days
c. 3 to 5 days	g. All 30 days
d. 6 to 9 days	
3. During the past 30 days, how many cigarettes did you smoke per day?

a. I did not smoke cigarettes during the past 30 days	d. 2 to 5 cigarettes per day
b. Less than 1 cigarette per day	e. 6 to 10 cigarettes per day
c. 1 cigarette per day	f. 11 to 20 cigarettes per day
	g. More than 20 cigarettes per day

These next questions ask about drinking alcohol. This includes drinking beer, wine, wine coolers, liquor such as rum, gin, vodka, or whiskey. For these questions, drinking alcohol does not include drinking a few sips or wine for religious purposes. Please remember to answer honestly.

4. During your life, on how many days have you had at least one drink of alcohol?
- | | |
|------------------|---------------------|
| a. 0 days | e. 20 to 39 days |
| b. 1 or 2 days | f. 40 – 99 days |
| c. 3 to 9 days | g. 100 or more days |
| d. 10 to 19 days | |

If you responded with 1 or more days to the previous question, please answer the following two questions:

5. During the past 30 days, on how many days did you have at least one drink of alcohol?
- | | |
|----------------|------------------|
| a. 0 days | e. 10 to 19 days |
| b. 1 or 2 days | f. 20 to 29 days |
| c. 3 to 5 days | g. All 30 days |
| d. 6 to 9 days | |
6. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?
- | | |
|----------------|--------------------|
| a. 0 days | e. 6 to 9 days |
| b. 1 day | f. 10 to 19 days |
| c. 2 days | g. 20 or more days |
| d. 3 to 5 days | |

These next questions ask about marijuana use. Marijuana is also called grass or pot. Please remember to answer honestly.

7. During your life, how many times have you used marijuana?
- | | |
|-------------------|----------------------|
| a. 0 times | e. 20 to 39 times |
| b. 1 or 2 times | f. 40 to 99 times |
| c. 3 to 9 times | g. 100 or more times |
| d. 10 to 19 times | |

If you responded with 1 or more days to the previous question, please answer the following question:

8. During the past 30 days, how many times did you use marijuana?
- | | |
|-----------------|---------------------|
| a. 0 times | d. 10 to 19 times |
| b. 1 or 2 times | e. 20 to 39 times |
| c. 3 to 9 times | f. 40 or more times |

These next questions ask about some other behaviors that could get you in trouble. Please remember to answer honestly.

9. During the past 12 months, on how many days did you carry a weapon such as a gun, knife, or club on school property?
- | | |
|-----------------|---------------------|
| a. 0 times | e. 6 or 7 times |
| b. 1 time | f. 8 or 9 times |
| c. 2 or 3 times | g. 10 or 11 times |
| d. 4 or 5 times | h. 12 or more times |

10. During the past 12 months, how many times were you in a physical fight on school property?

- | | |
|-----------------|---------------------|
| a. 0 times | e. 6 or 7 times |
| b. 1 time | f. 8 or 9 times |
| c. 2 or 3 times | g. 10 or 11 times |
| d. 4 or 5 times | h. 12 or more times |

11. During the past 12 months, about how many times did you skip school or cut classes?

- a. 0 times
- b. 1–2 times
- c. A few times
- d. Once a month
- e. Once a week
- f. More than once a week

12. During the past 12 months have you been arrested for a crime, offence, and/or a violation?

- a. Never
- b. Yes, 1-2 times
- c. Yes, 3-4 times
- d. Yes, 5 or more times
- e. I prefer not to answer

13. Do you consider yourself a member of a gang?

- a. No
- b. Yes

These next questions are about the people in your life. For each statement, indicate how true you feel these statements are about you personally.

	Not at all true	A little true	Pretty much true	Very much true
1. I have a friend my own age who really cares about me.	1	2	3	4
2. I have a friend my own age who talks with me about my problems.	1	2	3	4
3. I have a friend my own age who helps me when I'm having a hard time.	1	2	3	4
4. My friends try to do what is right.	1	2	3	4
5. My friends do well in school.	1	2	3	4
6. At my school, there is a teacher or some other adult who really cares about me.	1	2	3	4
7. At my school, there is a teacher or some other adult who tells me when I do a good job.	1	2	3	4
8. At my school, there is a teacher or some other adult who notices when I'm not there.	1	2	3	4
9. At my school, there is a teacher or some other adult who always wants me to do my best.	1	2	3	4
10. At my school, there is a teacher or some other adult who listens to me when I have something to say.	1	2	3	4
11. At my school, there is a teacher or some other adult who believes that I will be a success.	1	2	3	4
12. At school, I do interesting activities.	1	2	3	4
13. At school, I help decide things like class activities or rules.	1	2	3	4
14. At school, I do things that make a difference.	1	2	3	4

	Not at all true	A little true	Pretty much true	Very much true
15. At home there is a parent or some other adult who expects me to follow the rules.	1	2	3	4
16. At home there is a parent or some other adult who is interested in my schoolwork.	1	2	3	4
17. At home there is a parent or some other adult who believes that I will be a success.	1	2	3	4
18. At home there is a parent or some other adult who talks with me about my problems.	1	2	3	4
19. At home there is a parent or some other adult who always wants me to do my best.	1	2	3	4

20. At home there is a parent or some other adult who listens to me when I have something to say.	1	2	3	4
21. I do things at home that make a difference.	1	2	3	4
22. I help make decisions with my family.	1	2	3	4

These next questions are about activities you do during your free time (at school or in your neighborhood). For each activity, indicate whether you have been involved in the past 12 months.

	Yes	No	Not sure
1. School athletic team	Y	N	
2. School activities such as clubs or student government	Y	N	
3. Activities in the community such as scouts, service, hobby, and clubs	Y	N	
4. Organized summer after-school or sport recreational programs	Y	N	
5. Volunteer service activities	Y	N	
6. Civic rights activities	Y	N	
7. Other hobbies or activities	Y	N	
8. Have you ever been a part of a formal mentoring program?	Y	N	NS
9. I have an adult, other than my parents or guardian that I can go to for support and guidance.	Y	N	NS

The next questions are about how you think about yourself and how you do things in general. For each sentence, think about how you are in most situations and indicate which response describes you the best.

	None of the time	A little of the time	Some of the time	A lot of the time	Most of the time	All of the time
1. I think I am doing pretty well.	1	2	3	4	5	6
2. I can think of many ways to get the things in life that are most important to me.	1	2	3	4	5	6
3. I am doing just as well as other kids my age.	1	2	3	4	5	6
4. When I have a problem, I can come up with lots of ways to solve it.	1	2	3	4	5	6
5. I think the things I have done in the past will help me in the future.	1	2	3	4	5	6
6. Even when others want to quit, I know that I can find ways to solve the problem.	1	2	3	4	5	6

Appendix D: Mid-year Mentee Survey



Welcome to the Project Arrive Student Survey! Georgia State University and the San Francisco Unified School District are working together to conduct a research study about Project Arrive. Your information will help us learn about how being part of Project Arrive affects your development through your 9th grade year. With your help we will be able to make the program even better in the future.

These next questions are about how you feel about your mentor/group leader. Please rate your level of agreement with the following statements:

	Not at all true	A little true	Pretty much true	Very much true
1. I like to meet with my mentor(s).	1	2	3	4
2. My mentor(s) care about me.	1	2	3	4
3. My mentor(s) help me do better in school	1	2	3	4
4. Time spent with my mentor(s) is worthwhile.	1	2	3	4

These next questions are about your thoughts and feelings about being a group member.

	Not a lot	A little	Somewhat	Very much
1. How much did the group help you to deal with everyday problems?	1	2	3	4
2. How much did you help others to deal with everyday problems?	1	2	3	4
3. How much did the group help you make better decisions?	1	2	3	4
4. How much did you help others make better decisions?	1	2	3	4
5. When you are with your group, how much do you enjoy the activities you participate in?	1	2	3	4
6. Do you think the activities you do in your group are interesting?	1	2	3	4
7. How hard do you concentrate on the activities you do in your group?	1	2	3	4

These next questions are about your thoughts and feelings about the members of your group.

	Not a lot	A little	Somewhat	Very much
1. Kids in this group care about each other.	1	2	3	4
2. Kids in this group make each other feel good.	1	2	3	4
3. When someone says something in the group, it stays in the group (nobody will repeat it outside of the group).	1	2	3	4
4. If kids in the group are really mad or upset about something, they can talk about it in the group.	1	2	3	4
5. Kids in this group argue or fight with each other.	1	2	3	4

6. I feel like I am part of this group.

1 2 3 4

Appendix E: Post-program Mentee Survey



Project Arrive Student Survey/Post-Test

Welcome to the Project Arrive Student Survey! Georgia State University and the San Francisco Unified School District are working together to conduct a research study about Project Arrive. Your information will help us learn about how being part of Project Arrive affects your development through your 9th grade year. With your help we will be able to make the program even better in the future.

First, please answer a few questions about yourself.

1. What year were you born?

- | | |
|-------------------|---------|
| a. 1995 or before | f. 2000 |
| b. 1996 | g. 2001 |
| c. 1997 | h. 2002 |
| d. 1998 | i. 2003 |
| e. 1999 | j. 2004 |

2. What month were you born?

- | | |
|-------------|--------------|
| a. January | g. July |
| b. February | h. August |
| c. March | i. September |
| d. April | j. October |
| e. May | k. November |
| f. June | l. December |

3. What is your sex?

- a. Male
b. Female

4. OTHER THAN going to Project Arrive, during the past school year, how often have you visited your school's Wellness Program for information or services?

- a. Never
b. One or two times
c. Three to five times
d. Six to 10 times
e. More than 10 times

These next questions are about how you feel about your mentor/group leader. Please rate your level of agreement with the following statements:

	Not at all true	A little true	Pretty much true	Very much true
1. I like to meet with my mentor(s).	1	2	3	4
2. My mentor(s) care about me.	1	2	3	4
3. My mentor(s) help me do better in school	1	2	3	4
4. Time spent with my mentor(s) is worthwhile.	1	2	3	4

These next questions are about your thoughts and feelings about being a group member.

	Not a lot	A little bit	Somewhat	Very much
1. How much did the group help you to deal with everyday problems?	1	2	3	4
2. How much did you help others to deal with everyday problems?	1	2	3	4
3. How much did the group help you make better decisions?	1	2	3	4
4. How much did you help others make better decisions?	1	2	3	4
5. When you are with your group, how much do you enjoy the activities you participate in?	1	2	3	4
6. Do you think the activities you do in your group are interesting?	1	2	3	4
7. How hard do you concentrate on the activities you do in your group?	1	2	3	4

These next questions are about your thoughts and feelings about the members of your group.

	Not a lot	A little bit	Somewhat	Very much
1. Kids in this group care about each other.	1	2	3	4
2. Kids in this group make each other feel good.	1	2	3	4
3. When someone says something in the group, it stays in the group (nobody will repeat it outside of the group).	1	2	3	4
4. If kids in the group are really mad or upset about something, they can talk about it in the group.	1	2	3	4
5. Kids in this group argue or fight with each other.	1	2	3	4
6. I feel like I am part of this group.	1	2	3	4

These next questions are about how you feel about yourself. For each statement, indicate how true you feel these statements are about your personally.

	False	Somewhat False	Not Sure	Somewhat True	True
1. I usually think of myself as a happy person.	1	2	3	4	5
2. In reality I don't like myself very much.	1	2	3	4	5
3. I'm not very sure of myself.	1	2	3	4	5
4. I'm the kind of person who has a lot of fun.	1	2	3	4	5
5. I worry too much about things that aren't important.	1	2	3	4	5
	False	Somewhat False	Not Sure	Somewhat True	True
6. I often feel sad or unhappy.	1	2	3	4	5
7. I usually feel I'm the kind of person I want to be.	1	2	3	4	5
	Never	Not Often	Sometimes	Often	Almost Always
8. I feel nervous or afraid that things won't work out the way I would like them to.	1	2	3	4	5

9. I feel lonely.	1	2	3	4	5
10. I get into such a bad mood that I just feel like sitting around and doing nothing.	1	2	3	4	5
11. In recent years, I have felt more nervous or worried about things than I have needed to.	1	2	3	4	5
12. I feel very happy.	1	2	3	4	5

The next questions are about how you feel about yourself and others. For each statement, indicate how true you feel these statements are about your personally.

	Not at all true	A little true	Pretty much true	Very much true
1. I can work with someone who has different opinions than mine.	1	2	3	4
2. I can work out my problems.	1	2	3	4
3. I can do most things I try.	1	2	3	4
4. There are many things I do well.	1	2	3	4
5. I feel bad when someone gets their feelings hurt.	1	2	3	4
6. I try to understand what other people go through.	1	2	3	4
7. I try to understand what other people feel and think.	1	2	3	4
8. When I need help I find someone to talk with.	1	2	3	4
9. I try to work out my problems by talking or writing about them.	1	2	3	4
10. There is purpose to my life.	1	2	3	4
11. I understand my moods and feelings.	1	2	3	4
12. I understand why I do what I do.	1	2	3	4

Please indicate how many times you did each of these things in the last 7 days.

	None	1 Time	2-3 Times	4-5 Times	6-7 Times
1. I teased students to make them angry.	0	1	2-3	4-5	6-7
2. I got angry very easily with someone.	0	1	2-3	4-5	6-7
3. I fought back when someone hit me first.	0	1	2-3	4-5	6-7
4. I said things about a kid to make other students laugh.	0	1	2-3	4-5	6-7
5. I encouraged other students to fight.	0	1	2-3	4-5	6-7
6. I pushed or shoved other kids.	0	1	2-3	4-5	6-7
7. I was angry most of the day.	0	1	2-3	4-5	6-7
8. I got into a physical fight because I was angry.	0	1	2-3	4-5	6-7
9. I slapped or kicked someone.	0	1	2-3	4-5	6-7
10. I called other students bad names.	0	1	2-3	4-5	6-7
11. I threatened to hurt or hit someone.	0	1	2-3	4-5	6-7

The next questions are about your academic future.

3. If you could do exactly what you wanted, how far would you go in school?
 - a. 9th – 11th grade
 - b. Graduate high school
 - c. Post high school, vocational, or tech training
 - d. Some college
 - e. Business college, or two-year associates degree
 - f. Graduate from a four-year college
 - g. Get a Master's degree or teaching credential

- h. Get a law degree, PhD, or medical doctor's degree
4. We can't always do what we most want to do. How far do you think you will actually go in school?
- 9th – 11th grade
 - Graduate high school
 - Post high school, vocational, or tech training
 - Some college
 - Business college, or two-year associates degree
 - Graduate from a four-year college
 - Get a Master's degree or teaching credential
 - Get a law degree, PhD, or medical doctor's degree

These next questions are about your ethnic group membership.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I have spent time trying to find out more about my ethnic group, such as history, traditions, and customs.	1	2	3	4	5
2. I have a strong sense of belonging to my own ethnic group.	1	2	3	4	5
3. I understand pretty well what my ethnic group memberships means to me.	1	2	3	4	5
4. I have often done things that will help me understand my ethnic background better.	1	2	3	4	5
5. I have often talked to other people in order to learn more about my ethnic group.	1	2	3	4	5
6. I feel a strong sense of attachment towards my own ethnic group.	1	2	3	4	5
7. Most of my friends belong to my ethnic group.	1	2	3	4	5

The next questions are about how you think feel about yourself academically. For each statement, indicate how true you feel these statements are about your personally.

	Not true	A little true	Often true	Always true
1. I am good at my schoolwork.	1	2	3	4
2. I am just as smart as other people my age.	1	2	3	4
3. I am slow in finishing my schoolwork.	1	2	3	4
4. I do my class work well.	1	2	3	4
5. I have trouble figuring out the answers in school.	1	2	3	4

For these next questions, please indicate how strongly you agree or disagree with the following statements about your school.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I feel close to people at this school.	1	2	3	4	5
2. I am happy to be at this school.	1	2	3	4	5
3. I feel like I am part of this school.	1	2	3	4	5
4. The teachers at this school treat students fairly.	1	2	3	4	5
5. I feel safe in my school.	1	2	3	4	5

These next questions ask about cigarette smoking. For each question, please remember to answer honestly.

14. Have you ever tried cigarette smoking, even one or two puffs?

- a. Yes
- b. No

If you responded "Yes" to the previous question, please answer the following two questions:

15. During the past 30 days, on how many days did you smoke cigarettes?

- a. 0 days
- b. 1 or 2 days
- c. 3 to 5 days
- d. 6 to 9 days
- e. 10 to 19 days
- f. 20 to 29 days
- g. All 30 days

16. During the past 30 days, how many cigarettes did you smoke per day?

- a. I did not smoke cigarettes during the past 30 days
- b. Less than 1 cigarette per day
- c. 1 cigarette per day
- d. 2 to 5 cigarettes per day
- e. 6 to 10 cigarettes per day
- f. 11 to 20 cigarettes per day
- g. More than 20 cigarettes per day

These next questions ask about drinking alcohol. This includes drinking beer, wine, wine coolers, liquor such as rum, gin, vodka, or whiskey. For these questions, drinking alcohol does not include drinking a few sips or wine for religious purposes. Please remember to answer honestly.

17. During your life, on how many days have you had at least one drink of alcohol?

- a. 0 days
- b. 1 or 2 days
- c. 3 to 9 days
- d. 10 to 19 days
- e. 20 to 39 days
- f. 40 – 99 days
- g. 100 or more days

If you responded "Yes" to the previous question, please answer the following two questions:

18. During the past 30 days, on how many days did you have at least one drink of alcohol?

- a. 0 days
- b. 1 or 2 days
- c. 3 to 5 days
- d. 6 to 9 days
- e. 10 to 19 days
- f. 20 to 29 days
- g. All 30 days

19. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?

- a. 0 days
- b. 1 day
- c. 2 days
- d. 3 to 5 days
- e. 6 to 9 days
- f. 10 to 19 days
- g. 20 or more days

These next questions ask about marijuana use. Marijuana is also called grass or pot. Please remember to answer honestly.

20. During your life, how many times have you used marijuana?

- a. 0 times
- b. 1 or 2 times
- c. 3 to 9 times
- d. 10 to 19 times
- e. 20 to 39 times
- f. 40 to 99 times
- g. 100 or more times

If you responded "Yes" to the previous question, please answer the following question:

21. During the past 30 days, how many times did you use marijuana?
- | | |
|-----------------|---------------------|
| a. 0 times | d. 10 to 19 times |
| b. 1 or 2 times | e. 20 to 39 times |
| c. 3 to 9 times | f. 40 or more times |
22. During the past 12 months, on how many days did you carry a weapon such as a gun, knife, or club on school property?
- | | |
|-----------------|---------------------|
| a. 0 times | e. 6 or 7 times |
| b. 1 time | f. 8 or 9 times |
| c. 2 or 3 times | g. 10 or 11 times |
| d. 4 or 5 times | h. 12 or more times |
23. During the past 12 months, how many times were you in a physical fight on school property?
- | | |
|-----------------|---------------------|
| a. 0 times | e. 6 or 7 times |
| b. 1 time | f. 8 or 9 times |
| c. 2 or 3 times | g. 10 or 11 times |
| d. 4 or 5 times | h. 12 or more times |
24. During the past 12 months, about how many times did you skip school or cut classes?
- | |
|--------------------------|
| a. 0 times |
| b. 1–2 times |
| c. A few times |
| d. Once a month |
| e. Once a week |
| f. More than once a week |

25. During the past 12 months have you been arrested for a crime, offence, and/or a violation?

- a. Never
- b. Yes, 1-2 times
- c. Yes, 3-4 times
- d. Yes, 5 or more times
- e. I prefer not to answer

26. Do you consider yourself a member of a gang?

- a. No
- b. Yes

These next questions are about the people in your life. For each statement, indicate how true you feel these statements are about your personally.

	Not at all true	A little true	Pretty much true	Very much true
1. I have a friend my own age who really cares about me.	1	2	3	4
2. I have a friend my own age who talks with me about my problems.	1	2	3	4
3. I have a friend my own age who helps me when I'm having a hard time.	1	2	3	4
4. My friends try to do what is right.	1	2	3	4
5. My friends do well in school.	1	2	3	4
6. At my school, there is a teacher or some other adult who really cares about me.	1	2	3	4
7. At my school, there is a teacher or some other adult who tells me when I do a good job.	1	2	3	4
8. At my school, there is a teacher or some other adult who notices when I'm not there.	1	2	3	4
9. At my school, there is a teacher or some other adult who always wants me to do my best.	1	2	3	4
10. At my school, there is a teacher or some other adult who listens to me when I have something to say.	1	2	3	4
11. At my school, there is a teacher or some other adult who believes that I will be a success.	1	2	3	4
12. At school, I do interesting activities.	1	2	3	4
13. At school, I help decide things like class activities or rules.	1	2	3	4
14. At school, I do things that make a difference.	1	2	3	4
15. At home there is a parent or some other adult who expects me to follow the rules.	1	2	3	4
16. At home there is a parent or some other adult who is interested in my schoolwork.	1	2	3	4
17. At home there is a parent or some other adult who believes that I will be a success.	1	2	3	4
18. At home there is a parent or some other adult who talks with me about my problems.	1	2	3	4
19. At home there is a parent or some other adult who always wants me to do my best.	1	2	3	4
20. At home there is a parent or some other adult who listens to me when I have something to say.	1	2	3	4
21. I do things at home that make a difference.	1	2	3	4

22. I help make decisions with my family. 1 2 3 4

These next questions are about activities you do during your free time (at school or in your neighborhood). For each activity, indicate whether you have been involved in the past 12 months.

	Yes	No	Not sure
1. School athletic team	Y	N	
2. School activities such as clubs or student government	Y	N	
3. Activities in the community such as scouts, service, hobby, and clubs	Y	N	
4. Organized summer after-school or sport recreational programs	Y	N	
5. Volunteer service activities	Y	N	
6. Civic rights activities	Y	N	
7. Other hobbies or activities	Y	N	
8. Have you ever been a part of a formal mentoring program?	Y	N	NS
9. I have an adult, other than my parents or guardian that I can go to for support and guidance.	Y	N	NS

The next questions are about how you think about yourself and how you do things in general. For each sentence, think about how you are in most situations and indicate which response describes you the best.

	None of the time	A little of the time	Some of the time	A lot of the time	Most of the time	All of the time
1. I think I am doing pretty well.	1	2	3	4	5	6
2. I can think of many ways to get the things in life that are most important to me.	1	2	3	4	5	6
3. I am doing just as well as other kids my age.	1	2	3	4	5	6
4. When I have a problem, I can come up with lots of ways to solve it.	1	2	3	4	5	6
5. I think the things I have done in the past will help me in the future.	1	2	3	4	5	6
6. Even when others want to quit, I know that I can find ways to solve the problem.	1	2	3	4	5	6

Appendix F: Mentor Survey

1. How long have you worked at this school?

- ☐ 1-2 years
- ☐ 3-4 years
- ☐ 5-7 years
- ☐ More than 8 years

2. How many years of experience do you have in education and/or youth development?

- ☐ Less than 1 year
- ☐ 1-2 years
- ☐ 3-5 years
- ☐ 6-10 years
- ☐ 11-15 years
- ☐ More than 16 years

3. Did you attend the 4 hour "Group Mentor Boot Camp" in September 2014?

- ☐ Yes
- ☐ No
- ☐ I attended the training in a previous year

4. How helpful was the training for making you feel prepared?

1	2	3	4	5
Not at all		Somewhat helpful		Extremely helpful

5. How long do your group sessions typically last?

- ☐ Less than 40 minutes
- ☐ 40-50 minutes
- ☐ Over 50 minutes

6. Check any of the following activities that your group participated in at least once.

- ☐ Ice breakers/opener
- ☐ Games
- ☐ Closing/reflection/debrief
- ☐ Journaling
- ☐ Other (please specify)

7. Did your group participate in any of the following activities?

Guest speakers	Yes _____	No _____
Field trips	Yes _____	No _____
Academic check-in	Yes _____	No _____

8. How often did you use the Project Arrive group curriculum provided at the beginning of the year?

1	2	3	4	5
Never		About half of the sessions		Almost every session

9. How helpful did you find the curriculum in helping you plan/prepare for your group activities?

1	2	3	4	5
Not at all		Somewhat helpful		Extremely helpful

10. How much of a role do mentees have in deciding what will be done in a group?

1 2 3 4 5
 Mentors always Decide together Mentees always decide
 Decide or split 50/50

11. How often did you cover the following topics in your group?

1 2 3 4 5
 Never About half of Every session
 the sessions

Transitioning to high school	1	2	3	4	5
Goal setting	1	2	3	4	5
Academic achievement	1	2	3	4	5
Conflict resolution	1	2	3	4	5
Jobs/career planning	1	2	3	4	5
Peer relationships	1	2	3	4	5
Family relationships	1	2	3	4	5
Other (please specify)	1	2	3	4	5

12. Please rate the overall sense of cohesion that characterizes your group at this point in the year

1 2 3 4 5
 Not at all Somewhat cohesive Very cohesive
 cohesive

13. How important are the following factors in supporting cohesion in your group?

1 2 3 4 5
 Not at all Somewhat Important Extremely Important

Having structured activities	1	2	3	4	5
Having unstructured activities (such as games, sports)	1	2	3	4	5
Providing a safe, supportive space for students to talk	1	2	3	4	5
Having positive peer relationships	1	2	3	4	5
Snacks	1	2	3	4	5
Incentives	1	2	3	4	5
Other (please specify)	1	2	3	4	5

14. Would you consider yourself someone that your mentees would turn to if they needed help?

- ☐ Yes, most of them would come to me for anything
- ☐ Maybe some of them would, depending on what they needed
- ☐ No, they don't turn to me outside of our group time

15. How often did you encounter the following challenges?

	1 Never	2 About half of the sessions	3	4 Almost every session	5
Personal conflicts between mentees	1	2	3	4	5
One of two mentee(s) dominating discussion (drowning out other mentees)	1	2	3	4	5
One of two mentee(s) not actively participating	1	2	3	4	5
Inconsistent attendance by mentees	1	2	3	4	5
Inconsistent attendance by mentor (s)	1	2	3	4	5
Other (please specify)	1	2	3	4	5

16. If any of your assigned mentees withdrew from your group, what are the reason(s) you believe they stopped attending? (check all that apply)

- ☐ Opted out within first month
- ☐ Switched to a different mentoring group at this school
- ☐ Transferred out of this school
- ☐ Chronically absent from school
- ☐ Other school related obligations (teacher objections/academic obligations)
- ☐ Interpersonal conflict (between mentees)
- ☐ Interpersonal conflict (between mentee and mentor)
- ☐ Does not apply – no students withdrew
- ☐ Other (please specify) _____

17. Aside from the time you spent meeting with you group, how much time would you estimate you spent on Project Arrive activities within a typical week?

- ☐ Less than 30 minutes a week
- ☐ 30-60 minutes a week
- ☐ 1-2 hours a week
- ☐ 3-4 hours a week
- ☐ More than 4 hours a week

18. What level of support have you had from your school administrator(s) for taking the time to be a group mentor?

1 No support	2	3 Some support	4	5 A high level of support
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19. How important is it to have a co-facilitator/mentor?

1 Not at all	2	3 Somewhat Important	4	5 Extremely Important
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20. How well did you work with your co-facilitator?

1	2	3	4	5
Not at all		Somewhat Well		Extremely Well
6 Did not have a co-facilitator				

21. How much support have you received from the Project Arrive district coordinator (consultation, logging, peer sharing, field trips, etc)?

1	2	3	4	5
No support		Some support		A high level of support

22. How many students did you have at the start of the year?

23. How many students did you have at the end of the year?

24. How often did you have a full group (no more than 2 students absent)?

0	10	20	30	40	50	60	70	80	90	100
No sessions				About half					All sessions	
				of the sessions						

25. How many times did the group session have to be canceled?

- ☐ Never
- ☐ 1-2 times
- ☐ 3-4 times
- ☐ 5-6 times
- ☐ 7-8 times
- ☐ 9 or more times

26. How much personal money have you spent on your group (i.e., good, incentives, field trips)?

27. What is the likelihood that you will choose to be a group mentor again next year?

1	2	3	4
5			
Extremely Unlikely		Maybe	Extremely
Likely			

28. Based on your experience this year, would you encourage colleagues at your school to become a group mentor next year?

1	2	3	4	5
Extremely Unlikely		Maybe		Extremely Likely

29. Please rate your overall group mentoring experience.

1	2	3	4	5
Bad experience experience		OK experience		Excellent

30. What recommendations for possible program improvements do you have?

Thank you for your honest feedback and everything you do for the students!

Appendix G. Mentee Focus Group Interview Guide

Hello and welcome. Our names are _____. We are part of the GSU Research Team working with Project Arrive.

Thank you for taking the time to meet with us today. We have invited you here today because of your participation with Project Arrive.

Taking part in today's discussion is voluntary. You don't have to answer any of the questions if you don't want to. You will have a chance to decide if you want to take part in today's focus group or not after we review what it is all about.

We would like to record the conversation and take notes. This helps us remember what you said. We will record only if you are OK with it. Please let us know if you would prefer that we don't record the interview. The notes and recordings will be kept private in our office.

We would like to assure you that everything we talk about today will be confidential. We will not use your name or any information that will identify you. After we get the required information from the recordings, we will destroy them. You can let us know what you really think.

In general we would like to discuss your experiences in Project Arrive, how you feel while in your group, and your relationship with your mentors and group members.

Before we get started do you have any questions?

First, let's go around the room and introduce ourselves.

Thinking back, tell me about the first couple of meetings with the group. (Forming)

- What was it like first getting to know one another?
- How did you know what was expected of you?
- How did you start trusting one another?

How did your group come up with a group agreement? (Storming)

- (If there is no group agreement, how did your group decide on the ways you were going to treat one another while in group)
- What kinds of disagreements did you have when trying to create the group agreement?
- How did you resolve the conflicts?

What kinds of things did you include in your agreement? (Norming)

- What are the most important aspects of the group agreement?
- What happens if someone doesn't follow the agreement?
- How does your group respond to members who talk too much or too little?

How does your group work together now? (Performing...maybe)

- What kinds of personal things do you share with your group?
- How do group members support one another?
- Can you think of a time when things worked really well in your group? Was everyone involved?
- How has being in the group helped you with things like organizing time, interacting with teachers, getting assignments done, and improving your grades?
- How has being in group helped you get along with other students? What about feeling like you really belong in this school?
-

What happens when new people join or regular members leave the group?

How is the group important to you? Why?

If you could talk to a current eighth grader who is planning to participate in Project Arrive next year, what would you tell him or her about the program?

- What advice would you give them about joining Project Arrive?
- What about your group helped you the most with being a 9th grader?
- What do you wish your group could have done to help you more?

Closing:

Is there anything else you want to share about your group?

Thank you so much for coming and sharing your thoughts with us!

Appendix H: Mentor Focus Group Interview Guide

Hello and welcome. Our names are _____. We are part of the GSU Research Team working with Project Arrive.

Thank you for taking the time to meet with us today. Some of you may remember us from last year. We have invited you here today because of your work as a mentor with Project Arrive.

We would like to record the conversation and take notes. This helps us remember what you said. We will record only if you are OK with it. Please let us know if you would prefer that we don't record the interview. The notes and recordings will be kept private in our office.

We would like to assure you that everything we talk about today will be confidential. We will not use your name or any information that will identify you. After we get the required information from the recordings, we will destroy them. You can let us know what you really think.

Today, we would like to discuss your experiences as a Project Arrive mentor, training you may have attended before you started mentoring, and additional resources that may make your position as a mentor more effective.

Before we get started do you have any questions?

First, let's go around the room and introduce ourselves.

Mentor Training/Preparedness:

To get started we want to ask some questions about training before the year started. This may be different for new mentors and those who have been around for a while. Later we will ask about ongoing training throughout the year.

- Who is new, and who has been a mentor for a while?
- What trainings were you able to attend prior to becoming a PA mentor?
- What aspects of the training were helpful?
- Anything you could have used more of?
- If ongoing training was available throughout the year, would you be interested?
- What would make them easier to attend?
- What kinds of ongoing training or support would be helpful to you?

School Integration:

How is Project Arrive perceived in the school?

- Is it viewed as contributing to students' academic success? (If not, what would be needed to convey this message)
- Is it viewed as a program that is needed in the school? (why/why not?)
- Is it seen as sustainable and worth sustaining? (why/why not?)

- How does the school support you in your mentor role?

Website Use:

As I'm sure you know, we have launched a website for Project Arrive that has a lot of resources and activities for mentors and mentees. I want to talk with you all about your experience using this site. For those of you who have used it, tell me about your experience.

- If you haven't used it, what has stopped you?
- What did you use the website for? Was it useful?
- Which pages are the most useful?
- What is missing? What could we add to help you more?
- The website has a discussion section function, but it is not often used. What's keeping you from using the function?

Group structure:

If you could construct the ideal group, what would it look like?

- How many people would be in it?
- Who would be in it?
- How would you include people with different skills/talents? Different challenges?
- What types of students would not be suited for your ideal group?

Importance of co-mentors:

What has it been like working with a co-mentor?

- How important is Teamwork?
- How do you utilize any complementary skills/talents?
- What happens if one of you is busy with other things and can't prioritize group that week?

Sustainability:

What does it take to maintain a viable group?

- What skills do mentors need? (Are they the same skills as mentoring 1:1?)
- What about logistical constraints or opportunities in the school?

What is the biggest barrier to your participation in the program as a mentor?

What is the most important thing to you about being a group mentor?

Closing:

Is there anything else you want to share about your group?

Thank you so much for coming and sharing your thoughts with us!