Paths 2 the Future and the development of perceived peer support: A mixed methods study

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Abstract

This study used a convergent mixed methods design to examine environmental and curricular influences on peer relationships and support for young women with disabilities within a clustered, randomized controlled trial of a gender-specific, disability-focused intervention, Paths 2 the Future (P2F). Pre- and post-intervention surveys of perceptions of peer support were collected from 366 young women with disabilities in 26 high schools in the Northwest region of the U.S. Focus groups were conducted with 112 participants from the intervention group to examine participant perceptions regarding how P2F influenced their relationships. Survey data were analyzed using an intent to treat analysis approach using hierarchical linear modeling. Focus group data were analyzed using deductive and inductive strategies. The effect of the P2F on peer support was non-significant in our quantitative model, whereas qualitative themes suggested participants developed new relationships, closeness, and skills that support peer relationships as a result of the transformation of space, transformation of peer relationships, and transformation of self. The integration of qualitative and quantitative data indicated discordance, which was reconciled through additional quantitative analyses that suggested focus group participants, but not the overall intervention group, experienced significant increases in peer support from pre- to post-intervention.

Keywords: peers/friends, education/school, adolescence, gender, mixed methods.

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Feelings of school belongingness and connectedness are linked to a host of positive youth outcomes, including better mental health (Rueger et al., 2016; Chu et al., 2010) and academic outcomes (Appleton et al., 2008), as well as lower rates of truancy (Christenson & Thurlow, 2004) and behavior problems (Wang & Fredricks, 2014). Peer relationships and support are instrumental in fostering feelings of school belongingness and connectedness (Estell & Perdue, 2013; Juvonen et al., 2012; Pham & Murray, 2016). Peer relationships have also been linked to lower rates of school dropout among youth with learning disabilities (Doren et al., 2014), loneliness and depressive symptoms among youth with learning disabilities and autism spectrum disorders (Tur-Kaspa et al., 1999; Whitehouse et al., 2009), and greater social-emotional adjustment among youth with high incidence disabilities (Murray & Greenberg, 2006). However, many youth with disabilities commonly report fewer peer relationships (learning disability, attention disorder, autism spectrum disorder; Kreider et al., 2016; Locke et al., 2013), and perceive these relationships to be of lower quality (autism spectrum disorder, Locke et al., 2010; learning disability, Wiener & Schneider, 2002) and less stable (learning disability, Estell et al., 2009; attention deficit/hyperactivity disorder, Marton et al., 2015) as compared to the relationships of their peers without disabilities.

The challenges that youth with disabilities encounter with peer relationships are often attributed to social and communication skill deficits or problem behaviors, but they may also stem from opportunity barriers (Asmus et al., 2017). It is likely that some degree of underlying bias or preferences present within existing peer networks may limit the relationship choices available to youth with disabilities (e.g., Shalev et al., 2016). In addition, there may be a lack of choices available as a result of more segregated placements within school contexts that reduce access to peers (Fisher & Shogren, 2016; Juvonen et al., 2012). Given these barriers, it is important to examine how positive peer relationships develop for this population and leverage those mechanisms to enhance support.

The Influence of Networks and Classroom Dynamics on Peer Relationships

Social network theories provide a unique lens to understand how youth develop new relationships within school and classroom networks. The theory of homophily, in particular, posits that people who are similar in some respect (e.g., demographic characteristics, behaviors, values) are more likely to form a relationship, often described by the expression “birds of a feather flock together” (McPherson et al., 2001). Although homophily can occur across many dimensions, only the most “socially salient” dimensions for a given network play a determining role (McPherson et al., 2001). Homophily may also arise because of the belief that shared knowledge exists among those

who are similar (Carley, 1991). Disability homophily likely results from both the social salience of disability status within school and classroom networks and the mutual knowledge resulting from the shared experience of disability. This is supported by empirical evidence that youth with learning disabilities, attention disorders, and autism spectrum disorders are more likely to have relationships with peers with disabilities than typically developing peers (Estell et al., 2009; Kreider et al., 2016; Locke et al., 2010), and that youth with intellectual disabilities and severe disabilities perceive their relationships with peers with disabilities as more equitable (Mason et al., 2013; Rossetti & Keenan, 2018). The shared feelings, experiences, or understanding within homophilous relationships may also lead to greater belongingness (Mahar et al., 2013).

Networks in schools and classrooms, within which youth with disabilities are embedded, are also influenced by propinquity- the theory that people who are geographically close to one another are more likely to develop relationships (Blau, 1994). However, proximity by itself does not guarantee that relationships will form. Feld's (1981) notion of foci, or entities around which individuals engage in joint activities with a shared focus, may help to explain how geographic proximity influences relationships. Relationships that develop out of group-based joint activity can lead to valued interactions and subsequent positive feelings toward members.

Within the school and classroom context, a multitude of foci help to shape the relationships, and ultimately, the social networks of youth. Shared course taking, shared extracurricular activities, and classroom grouping all influence the networks of youth in schools (Frank et al., 2013; Hallinan & Sørensen, 1985; McFarland et al., 2014). Teachers in particular have unique opportunities to shape foci within the classroom to influence networks. Foci can be built through grouping and more broadly through the management of social dynamics, sometimes referred to as the "invisible hand" (Farmer et al., 2011). Social dynamics management is a recursive process that includes teacher attunement, management of the social ecology, students' social opportunities and experiences, synchronous relationships and interactions, and students' social features and skills (Farmer et al., 2018). Qualitative research reveals that systematic and comprehensive approaches to support teachers' management of social dynamics are especially needed (Walls et al., 2019). Such approaches may be especially critical for teachers serving youth with disabilities in particular. Social dynamics management can create a classroom context that promotes positive social experiences and opportunities for youth with disabilities, potentially addressing the gap in friendship outcomes between youth with and without disabilities (Farmer et al., 2018).

Supporting Peer Relationships Through Classroom-Based Interventions

Targeted classroom-based interventions, such as the "Paths 2 the Future" (P2F) curriculum, which is a gender-specific, disability-focused intervention can serve as useful tools for systematically supporting peer relationships in vulnerable groups (Author). Although P2F was not explicitly developed as a peer support or relationship skill building curriculum, the method of delivery (e.g., in small classes) and the content (e.g., gender-specific and disability focused) target factors associated with homophily and propinquity that can help with peer relationship development. Further, based on social dynamics management concepts, teacher facilitation of the P2F curriculum can promote a classroom context that is conducive to peer support and relationship development.

As an intervention, the delivery of the P2F lessons typically occurs in small classes (average class size = 12) of young women with disabilities in high school settings across the course of an academic semester. The structure of the intervention utilizes both homophily by including only young women with disabilities and propinquity by creating a small class, which could increase the likelihood that relationships form among participants. The content of the curriculum (i.e., topics and activities) may further serve to enhance the effects of homophily and propinquity. The main goal of P2F is to break down socially constructed barriers associated with gender and disability and promote self-efficacy for participating students to facilitate overall career development (Author). The curriculum has a total of 75 lessons divided into four modules: (a) self-awareness, (b) disability knowledge, (c) gender identity, and (d) career and college readiness. The development of disability and gender identity may increase their personal salience, which may make those characteristics more critical in the selection of relationships. Furthermore, the joint activities that participants engage in during the P2F intervention could lead to valued interactions with peers that support positive feelings toward one another and an overall sense of belongingness. The curriculum materials also provide a roadmap for the teacher to manage the social dynamics of the classroom. Teachers are provided with clear guidance for establishing group-determined expectations, maintaining expectations across lessons to support positive peer norms and culture, teaching interpersonal skills that support prosocial interactions, and providing students with leadership experiences and socially valued roles (for more detail on the P2F curriculum, see Author).

Qualitative findings from [Author], a mixed methods study of participant perspectives, identified the "girls-only" aspect of the intervention as important to enhanced learning and confidence, and creation of a safe space. Therefore, it is possible that participation in a gender-specific, disability-focused, classroom-based intervention such as P2F promotes peer support and relationship development, however there is currently no empirical evidence to

support this claim. In this study, we used a convergent mixed methods design to test if participation in the P2F intervention was associated with an increase in perceived peer support using a randomized controlled trial, with a pre-post design, including 366 young women with disabilities recruited across 26 public high schools in the Pacific Northwest region of the United States. We also analyzed focus group data (collected from intervention group participants only) to assess perceptions of peer relationships post-intervention. The reason for collecting both types of data is to converge findings from both sources of data to bring greater insight to the underlying mechanisms (i.e., propinquity, homophily, social dynamics management) of gender-specific, disability focused, classroom-based interventions, such as P2F, in improving peer relationships and support than would be obtained by either quantitative or qualitative data separately. The research questions for this study included:

1. Quantitative: Does assignment to a gender-specific, group-based, disability focused intervention increase peer support, controlling for individual factors (i.e., grade, race/ethnicity, time between pre- and post-intervention) relative to the control group, using an intent-to-treat analytic approach?
2. Qualitative: how do young women describe the impact of the intervention on their school-based peer relationships during participation in post-intervention focus groups?
3. Mixed methods: to what extent do the quantitative changes in peer support attributable to the intervention converge with focus group findings regarding the ways in which the intervention impacted peer relationships?

Method

Research Design

Participating schools ($N = 26$) were randomly assigned to intervention ($n = 13$) and control ($n = 13$) conditions using propensity score matching procedures (for more details, see Author). Participants in the control group received "business as usual" transition services available in their high schools and participants in the intervention group were in classrooms that received the intervention. The P2F intervention was designed to be delivered in a group or classroom setting during 50-minute class periods over an 18-week semester. Due to variability in school scheduling, implementation in participating schools occurred across trimester, semester, and year-long classes. Following randomization, all participating intervention teachers attended a one-day workshop to learn about curriculum components, classroom materials, and data collection procedures. The workshop included review and guided practice of a small number of lessons, including some with components that contribute to social

dynamics management (e.g., practicing reinforcing established group norms and expectations during activities, teaching communication skills to promote prosocial interactions, providing leadership experiences and socially valued roles during a group project to form a small business). Parent consent and student assent were obtained prior to pre-intervention data collection. Participants were assessed three times: pre-intervention, post-intervention, and six-month follow-up. Participants were given $20 incentives after participating in each survey data collection timepoint. Intervention group participants also participated in focus groups post-intervention. Additional details about participant recruitment and study design can be found in [Author]. The current study uses data from pre- and post-intervention assessments and focus group data from intervention group participants only.

A convergent mixed methods design was used to analyze quantitative and qualitative data separately and merge the results (Creswell & Plano Clark, 2018). The convergent design involved five distinct stages pre- and post-intervention, as shown in Figure 1. Quantitative data were collected at pre-intervention, and following the intervention, quantitative and qualitative data were collected using online surveys and focus groups, respectively. Next, quantitative and qualitative data were analyzed separately. Following data analysis, the results of the two data analyses were merged by comparing the results and determining fit of data integration (i.e., confirmation, complementarity, expansion, discordance; Fetters & Molina-Azorin, 2017). Finally, the extent and ways in which the results converged with each other was interpreted. Discordance between results was examined using procedures described by Pluye and colleagues (2009).

Participants

Following approval from an Institutional Review Board and in accordance with approved protocols, special education teachers and school counselors across 26 participating high schools in the Northwest region of the United States were asked to identify a sample of young women with disabilities to participate in an efficacy trial of the P2F intervention. Inclusion criteria used to identify potential participants were: (a) identifies as female, (b) currently enrolled in grades 9 through 12 at a participating high school, (c) eligible for special education services due to a high incidence disability (i.e., learning disability, other health impairment, autism spectrum disorder, speech/language disability, and emotional disability), and (d) possesses fifth- to sixth-grade reading, writing, and language skills.

Quantitative Study Sample

Study participants included 366 young women with disabilities (intervention n = 153; control n = 213) who largely identified as white (61%), multiethnic (14%), or other or unknown (13%). In terms of ethnicity, a total of

19% of participants also identified as Hispanic or Latina. Participants were enrolled in grades 9 (14%), 10 (34%), 11 (30%), and 12 (22%), and most participants were eligible for special education services under the specific learning disability (55%) and other health impairment (15%) categories. Teachers reported that the majority of participants (54%) experienced more than one academic or social barrier, and difficult family circumstances (44%), mental health issues (43%), and chronic absenteeism (28%) were the most commonly reported barriers. Additional demographic characteristics are reported in Table 1. Schools included in the study were located in cities (n = 14), towns (n = 6), suburbs (n = 1), and rural areas (n = 5) and ranged in size from 84 to 1569 total students, the proportion of the student population receiving special education services ranged from 6% to 100%, and the proportion of the student population receiving free and reduced-price lunch ranged from 11% to 78%.

Qualitative Study Sample

Seventy-three percent (n = 112) of the intervention group participants participated in the post-intervention focus groups, demographic characteristics of this subsample of the larger quantitative sample are reported in Table 1. Focus groups ranged in size from six to thirteen participants (M = 8.62, SD = 2.33). Missingness in the focus group data was related to academic and social barriers experienced by participants, r = .18, p < .05, such that students who experienced more barriers (based on teacher reports) were less likely to participate in focus groups.

Data Collection

Quantitative Data Collection

All participants were assessed at pre-intervention, post-intervention, and at a six-month follow-up using an online survey administered by research team members. Participants in schools implementing on a full-year schedule were additionally assessed midway through the academic year. At pre-intervention, teachers provided information about participants' primary disability diagnoses qualifying them for special education services, as well as information on barriers to academic success and future employment through an online survey. The present study included pre-intervention and post-intervention data only. Post-intervention data collection occurred 166 days (SD = 71.82) on average following pre-intervention.

Dependent Variable. Post-intervention peer support served as the dependent variable for quantitative analyses. Peer support was measured using the peer support for learning (PSL) subscale of the Student Engagement Instrument (SEI; Appleton et al., 2006) that includes six items on a 4-point rating scale from 1 "strongly disagree" to 4 "strongly agree", including items such as "I have some friends at school", and "Other students at school care about

me". Scaled scores were calculated if at least 70% of items were present and were calculated as an average of all completed items (α =.93).

Independent Variable. Assignment to the intervention condition served as the independent variable for the quantitative analyses. An intent to treat analysis (ITT) approach was used, where intervention effects are determined by comparisons between assigned groups irrespective of dropout, changes in protocol, implementation variation or noncompliance, or other unobserved factors (DeGarmo & Gerwitz, 2019).

Covariates. Individual-level covariates were measured using data from self-report measures collected at pre-intervention. *Pre-intervention peer support* was measured using the PSL subscale of the SEI (α =.90). *Grade level* was measured using a participant self-report item. *Race and ethnicity* was measured using two self-report items where Hispanic and Latina ethnicity were assessed separately from all other racial and ethnic identities. Race and ethnicity was represented dichotomously (Black, Indigenous, and People of Color (BIPOC; i.e., American Indian or Alaskan Native, Black or African American, Asian American, multiethnic, Hispanic or Latina, Native Hawaiian or Pacific Islander, other) = 1; non-Hispanic/non-Latina White = 0). *Time between pre- and post-intervention* was measured using a count of the number of days between data collection periods.

Qualitative Data Collection

In-person focus groups were conducted with each of the thirteen intervention schools by four research team members. Nine focus groups were conducted by two or three team members while three focus groups were conducted by one team member. Focus groups were typically conducted during the assigned P2F class time following administration of the post-intervention survey and typically ranged from 30-70 minutes. Since the focus group was conducted during class time, those who were present that day participated in the groups. The number of participants ranged from 5 to 13 and averaged 8. To ensure comparability of findings across focus groups and facilitators, a semi-structured focus group format with a detailed protocol was utilized. The focus group protocol was developed based on career development literature and key outcome areas targeted by the curriculum and piloted through an earlier related study (Author). A total of nine open-ended questions were posed during each group. These questions focused on the participant's experience of the class (e.g., "What was the best part about being in the P2F class?", "What's the most important thing you learned about yourself by being in this class?", "What could we do to make the P2F class better for next year?", and "How has the P2F class impacted your relationships?"). Facilitators

asked probing questions and followed the lead of participant's answers to fully explore their experiences participating in the class. Accommodations were provided when requested by the teacher or student.

Data Analysis

Quantitative Data Analysis

A two-level hierarchical linear model (HLM; Raudenbush & Bryk, 2002) was estimated, where participant characteristics and peer support at level 1were nested within schools at level 2 using the lme4 package in R (Bates et al., 2015). HLM was used to partition the variance in peer support attributable to schools. Due to the nested structure of the data, the one-way ANOVA model, or unconditional means model, was used to calculate the intraclass correlation coefficient (ICC) or the degree of dependence at the school level, and the multilevel design effect (*deff*) or the degree of deviation from a simple random sample (Muthén & Satorra, 1995). In the current study, though ICC was < .0001 and *deff* < 1.1, assignment to the intervention was done at the school level and hence, the standard errors may be negatively biased without use of multi-level modeling (Lai & Kwok, 2015). Missing data ranged from 0% to 19%, and patterns across study variables did not violate missing data assumptions, Little's MCAR $\chi^2 = 318.20,\ df = 216,\ p = .45$, and were addressed using multiple imputation by chained equations (White et al., 2011) using 20 imputations and the mice (van Buuren et al., 2019), miceadds (Robitzsch et al., 2020), and merTools (Knowles et al., 2019) packages in R.

For research question one, the effect of the P2F intervention on post-intervention peer support was evaluated using the intercepts and slopes outcome model including all covariates at the individual-level.

$$\text{L1: } Post-Intervention\ Peer\ Support_{ij} = \beta_{0j} + \beta_{1j}\left(Pre-Intervention\ Peer\ Support_{ij}\right) + \beta_{2j}\left(Grade_{ij}\right) + \beta_{3j}\left(Race/Ethnicity_{ij}\right) + \beta_{4j}\left(Time\ Between\ Pre-\ and\ Post-Intervention_{ij}\right) + r_{ij}$$

$$\text{L2: } \beta_{0j} = \gamma_{00} + \gamma_{01}\left(ITT_j\right) + \mu_{0j}$$

Grade was centered at grade 9, or the lowest grade within the study sample. All other individual-level covariates were uncentered.

Qualitative Data Analysis

To answer research question two, a thematic analysis (Braun & Clarke, 2006) was conducted using a multi-stage coding process outlined by Miles et al. (2020). First, all transcripts were transcribed verbatim by a research team member and then uploaded to a qualitative analysis program (Dedoose) for analysis. Next, the transcripts were independently reviewed by the first and second authors to understand how participation in this class may have

changed or impacted peer relationships, including changes in themselves that could impact these relationships. As the first and second authors read the transcripts to familiarize themselves with the data, they independently took notes on initial codes they identified in the data. They then met to compare lists and develop an agreed upon set of codes to be applied to the first transcript. The fifth author reviewed this list of codes and final edits were made to increase the clarity and distinctness of each code. The first, second, and fifth authors then independently coded one focus group transcript and then met to discuss any needed revisions to the code book. A list of 11 codes to be applied in the first cycle of coding were finalized and included: activities that facilitated closeness, changes in social behavior, closeness, girls only class, increased social connections, knowledge, new friendships, self-awareness, shared disability status, skill development, and small class size.

Next, the first and second authors independently coded transcripts from the 13 focus groups and met to reach consensus on code application for each transcript. These co-authors met again to review code applications and further refine codes. For example, knowledge and skills were combined into one code due to the overlap in text. Codes with a large number of applications were examined to see if they could be further refined into subcodes. For example, skill development was further refined with the subcodes of self-management and general social skills with a subcategory of communication. Self-awareness was further refined into the codes of confidence and being yourself and seeing yourself and others differently. The first and second author applied these codes together, discussing divergent perspectives until agreement was reached. To reach agreement the authors referenced the code book, examined previously coded text and discussed each other's perspectives. This resulted in codes with a number of applications that ranged from 4 to 70. Six codes had the highest number of applications ranging from 22 to 70 with mentions across 9 to 13 schools. Once all codes were applied, they were analyzed for themes, which are reported below. See Table 2. To identify themes aimed at answering research question two, "how do young women describe the impact of the intervention on their school-based peer relationships during participation in post-intervention focus groups?", the first and second author examined the codes and grouped them together based on similarities. For example, text coded under closeness, increased social connections, and new friendships were all similar in that they described ways in which the class impacted their peer relationships and so were identified as belonging together under a theme called, transformation of peer relationships.

To ensure a high-quality analysis process, a checklist of criteria for a good thematic analysis generated by Braun and Clarke (2006) was used. Elements of this include verbatim transcription, a thorough coding process that

identified a "coherent, consistent, and distinctive" (Braun & Clarke, 2006, p. 96) set of themes. In our presentation of themes below, we go beyond simply reporting the themes to interpreting them into a well-organized story about the impact of the gender-specific, disability focused P2F class on peer relationships.

Mixed Methods Integration

To answer research question three, the quantitative and qualitative data were analyzed separately using an intramethod analytics approach (Fetters & Molina-Azorin, 2017; O'Cathain et al., 2010) described in the quantitative and qualitative data analysis sections above. Results were merged by comparing the findings and determining fit of data integration (i.e., confirmation, complementarity, expansion, discordance; Fetters & Molina-Azorin, 2017) to produce a more complete understanding of the effects of the intervention, including potential mechanisms of influence for peer relationships.

Results

Peer Support

Descriptive statistics and bivariate correlations are presented in Table 3. Peer support was stable from pre-intervention to post-intervention for the control group (M_{pre} = 2.96, M_{post} = 2.97) and increased slightly from pre-intervention to post-intervention for the intervention group (M_{pre} = 2.85, M_{post} = 2.97). The results of the intercepts and slopes outcome model are presented in Table 4. Results from the ITT analyses indicated that assignment to the P2F intervention was not significantly associated with an increase in peer support relative to control group assignment, accounting for covariates. Inspection of pseudo r^2 values indicated the intercepts and slope model did not explain variance at the school level ($r^2 < .00$), but did explain variance at the participant level ($r^2 = .29$).

Peer Relationships

Three main themes emerged from the focus group data, providing a unique view of how young women with disabilities described the impact of the P2F intervention on their peer relationships and providing a glimpse of the processes through which these impacts were made. The three themes include transformation of space, transformation of peer relationships, and transformation of self.

Transformation of Space: The Classroom

"Girls-Only". The transformation of their classroom into a space where only other young women were present was identified across all intervention schools as not only a unique, but an important element of P2F and one which ultimately appeared to lay the groundwork for transformations in their peer relationships. Being in a room

without young men seemed to provide a layer of safety and commonality that allowed for relationships to flourish as the majority of participants reported they did not think the class would have been the same if young men had been present. Many predicted they would not have talked or shared as much as one participant reflected, “I think that if there were guys in the class, I definitely wouldn’t share my feelings about anything”. Being a “girls-only” class allowed them to feel “safe” and “not feel intimidated”. Indeed, being vulnerable, sharing, and developing friendships, would have been very challenging because as one participant summed, “We wouldn’t be ourselves if there were guys in the classroom”.

Transformation of Peer Relationships

Closeness. With the ability to be vulnerable and participate openly and freely in class discussions, participants described the closeness with other young women created in this space, as one of the benefits of participating in the class. One young woman described the unfolding process of growing close,

> In this class we are all really close and like friends, the thing is like I feel like at first, I was kinda nervous, to like… share and stuff, but then like once we got to know each other, I feel like it’s good that we are all close and we all know we can like say something and we won’t feel like embarrassed. We all feel comfortable and like safe, I guess.

For many participants, the feelings of closeness led them to describe each other as family, as one participant reflected,

> I feel like this class has like brought all of closer together. When we first started out some were good friends, and some didn’t know each other really. Toward the middle and end of this whole curriculum we all became friends and sisters.

The sentiment of feeling like a family was echoed by others who when asked how this class was different from their other classes said, “We are like a family….like a girl family” and another who shared, “…this made us closer as people and sisters…I really consider each one of these girls my sisters”.

For some participants though, feelings of closeness only came after settling pre-existing conflicts as one student remarked,

> [Name of student] and I used to hate each other in the beginning of the year. Because of a class that we were together in and in this class, I just didn’t want to tension anymore and then I started to talk to her again and now we are even closer than we were before.

While not identified by the majority of participants, it is noted that shared disability status and perceived racial diversity of the class facilitated feelings of closeness for two students as one shared, “In this class since we all have disabilities and weakness and everything … in other classes… they don’t give you a chance and no one there understands how hard it is and in this class there’s a lot more understanding”. While another shared, “Also, this class is more like diverse, but we are also so close together now and like in other classes it’s all…White people”.

The closeness that many of the young women described often led to them describing how this changed their peer relationships in two ways, first, by increasing their social connections in general where they came to know more peers, and secondly that some of these connections developed into friendships and in some cases, best friendships.

Increased Social Connections. In describing the expansion of her social network, one young woman shared, “Had I not been in this class I would probably not have talked to half the girls in the class”. Others reinforced the idea of unlikely connections, as another student shared “…if you look at all of us you wouldn’t really picture all of us hanging out with each other and being with each other and then after this class we are all doing it now”. For others, being in the class provided the opportunity to get to know young women by whom they had previously felt intimated, “I was really scared to talk to them or go near them, but ever since this class we talk more”.

New Friendships. In addition to new social connections with young women in the class, many participants described the opportunity to develop new friendships as one of the benefits of being in the class, as one participant remarked,

> I never really had any girlfriends or girls to talk to. I usually only ever had one or two friends. I’m not that open of a person and I don’t get along with everyone that well. But like, when I’m in this class, it feels like everyone is allowed to be friends and I can talk to everyone.

Sometimes new friendships developed into best friendships as one participant shared,

> I have gotten like new friendships, especially with her, she’s like my best friend. I talk to her and hang out with her all the time. And I’ve like hung out with all these different people and grown new relationships, like friendships.

Several other young women shared that this was the first time they felt accepted by other young women as one participant remembered,

> I made other friends too, I made like four other friends and four other more friends that are all females and I was so proud of myself cuz I was never able to be friends with girls and I always wanted girls to be my friends. And I've only had ever one friend that was a girl.

Transformation of Self

Young women identified several ways in which being in the class transformed them. For the purposes of describing the results, the ways in which they changed are discussed separately, although there is certainly overlap and reciprocal influence among these elements. Through participation in the P2F course the young women described knowledge they obtained and skills they developed that impacted their social relationships. Participants also described ways in which they came to see themselves differently and felt a new confidence in being themselves.

Knowledge and Skill Development. When asked about the most important things they learned in the class, many young women highlighted knowledge and skills that impacted the way they interacted with their peers. These mostly fell into the category, general social skills, with a particular emphasis on communication skills.

General Social Skills. One participant shared that being in the P2F class had a general impact on the way she related with others saying, "I think we relate to other people the more we relate to other girls in this class and connect with new relationships" while another shared "I didn't want to go to this class, it's forcing me to be social, but then I got used to it and … it gave us social skills". The class also provided young women not only with the space to build friendships, but also with the opportunity to practice the knowledge and skills gained from the curriculum. One young woman described how she learned about the importance of getting to know someone before trusting them, and then was able to apply this to developing friendships in the class,

> I learned to trust people a little bit more than what I used to because I don't trust too many people, so I learned along the way that you have to get to know the person before you trust them.

Through the class others also became aware of aspects they wanted to change in order to build better relationships. For example, one participant shared, "I learned that… I kinda like say things, but sometimes when I don't mean for them to be mean, they come out mean and like I need to work on it".

***Communication*.** Young women also reported that they felt more comfortable and confident communicating and expressing their opinions, ideas, and being self-advocates. Some participants shared that this included becoming more comfortable telling others about their disability label as one young woman shared that her most important takeaway from the class was,

> …learning to be comfortable with [my] disability … I used to be shy telling people like 'yeah I have this disability' and all of that and I don't know, I just think it was hard and now I am more comfortable sharing with people.

Others shared that they became more confident advocating for and expressing their own needs. For one young woman, this meant unlearning some socialized behaviors, she shared that she learned, "I can say 'No' and tell people to stop doing things and be confident about it. I don't need to help protect other people's feelings. I need to protect myself".

For some young women though, being explicitly taught about communication skills was important and helped with friendships in general as on participant reflected, "I think it helped us with our outside friends because when we were talking about communication, I feel like a lot of us realized we weren't doing very good with communication".

Seeing Yourself Differently. When asked to identify the most important thing they had learned about themselves from being in the class, several young women indicated that they now saw themselves differently. For some, this change was in a general sense as one participant indicated that being in the class "will probably give you a different point of view about yourself and how you see yourself and other people", while others came to see themselves differently through interactions in the classroom and new friendships. For example, one participant shared that she learned:

> that I actually have social skills cuz I've been told because of my disability over the years that like I'm like incapable of interacting with people well and that I somehow will just never understand anything useful of people. And since none of you guys at least openly think I'm an absolute jerk, I think I've succeeded. Woohoo!

Another participant shared, "…after getting a little bit of few friends, I'm like 'Whoa, I can be friends with women'. And after a while, then I started getting girlfriends, like actual friends who were girls instead of men".

Confidence and Being Yourself. Many young women shared that the class helped them develop a general sense of confidence as one student shared, "You just feel more confident. You just feel better about yourself". Others indicated that the class helped them feel more confident and increased their ability to be themselves. One participant reflected,

> I've learned that it's OK to be me because ever since elementary, I've always put up a face at school and it's down now. And I kind of learned to stop putting on a face cuz I know I don't need that face… I feel like I get more support because people know me better and so they actually get to know the real me instead of the fake me. So, it's kind of really cool at the same time and it's really . . . cause then you like open up yourself.

This quote seemed to embody the process described at least in part by several young women across schools. As they felt safe and comfortable enough to be a little vulnerable, they were able to begin forming connections and friendships with other young women. As this participant described, some were able to form friendships based on their authentic self, which allowed them to be more open and develop more confidence in being themselves. The self then, was a concept that continued to evolve and transform throughout the course as young women came to see themselves anew through self-exploration, personal development, connection, and friendship.

Results Convergence

Following our analyses of quantitative and qualitative data, we compared the results and determined fit of data integration. Quantitative and qualitative data were discordant. Quantitative results indicated assignment to the P2F did not significantly increase peer support relative to the control group. However, focus group participants reported transformation of their peer relationships through feelings of closeness, new friendships, and overall increased social connections with their P2F classmates. We explore this discordance further in the discussion section.

Discussion

When considered separately, the quantitative results show that assignment to the P2F intervention did not significantly increase peer support as compared to control group assignment among a sample of young women with disabilities. Based on ITT analyses, there was a non-significant change in perceptions of peer support (pre-/post-) between intervention and control group participants. Nevertheless, our qualitative findings derived from the focus group data suggest that participants in the intervention group perceived that the P2F class had a meaningful impact on peer relationships through an iterative process of transformation of space, transformation of peer relationships, and transformation of self.

Specifically, the qualitative findings indicated that participation in P2F influenced peer relationships in the following ways. First, transformation of the space, set the stage for these young women to have regular opportunities

to develop friendships in a "girls-only" environment. Consistent with the theory of propinquity that physical proximity increases the likelihood that people will develop friendships (Blau, 1994), several young women across schools noted seeing other young women at the beginning of the class they did not like or did not know, but with whom they developed friendships over the course of the class. However, propinquity alone does not guarantee friendships will form, and the "girls-only" aspect of the class appeared to be particularly socially salient (McPherson et al., 2001). Participants reported the "girls-only" aspect of the class provided a safe environment that allowed them to speak more openly, participate in class freely without fear of teasing, be vulnerable, and be themselves. The focus of the curriculum on breaking down socially constructed notions of gender (Author) may have further enhanced the salience of the "girls-only" aspect of the class. In this way, gender homophily appeared to provide the foundation for the transformation of peer relationships. Peer relationships developed among the participants as they were able to explore and reaffirm their shared knowledge as young women (Carley, 1991). The importance of the "girls-only" aspect of the class reinforces prior results in which participants also noted the importance of a "girls-only" classroom (Author). In that study, looking at the larger context of self-exploration and learning, young women reported that a "girls-only" classroom enhanced their learning experience as it enabled them to engage in discussing sensitive topics, share their feelings and perspectives openly, and confidently explore their strengths and experiences. Through the lens of peer relationships however, gender homophily within the class led them to note that new friendships and feelings of closeness were two of the most important benefits of participating in the intervention.

Young women also noted an increase in social skills through participation in the curriculum, leading to a transformation of self. Their increased social skills facilitated prosocial interactions that also supported the development or maintenance of relationships. The curriculum's strategies for managing the social dynamics (Farmer et al., 2018) of the classroom via skill development and prosocial activities likely facilitated the development of relationships within the classroom context. In line with the goal of the curriculum to facilitate self-efficacy (Author), young women described a recursive process of self-awareness and self-confidence leading to greater transformation of peer relationships. As they developed friendships and participated in the curriculum, they reported that their self-confidence increased, and they came to see themselves differently. These changes allowed some of them to be more open and confident in developing new friendships and social connections, which served then as one mechanism for increasing their self-confidence and self-perceptions. Together, the qualitative findings indicate that the

development and maintenance of relationships of these young women occurred through an iterative process where the "girls-only" class served as a transformative space for peer relationships and the self.

Given the discordance between the quantitative and qualitative results, we sought to reconcile the differences between the two types of data as recommended by Pluye et al. (2009). We completed additional quantitative analyses for the intervention and focus group participants separately, to examine whether peer support scores increased from pre- to post-intervention. Results of a mixed-effects model for repeated measures estimated using the lme4 package in R (Bates et al., 2015) and restricted maximum likelihood (REML) indicated that peer support did not significantly increase from pre- to post-intervention for the intervention group participants (n =153), controlling for grade, race/ethnicity, and time between assessments, $\beta = 0.09, SE = 0.005, t(133) = 1.80, p = .08$. However, there was a significant increase in peer support from pre- to post-intervention among the focus group participant subset, (n = 112), $\beta = 0.12, SE = 0.006, t(104) = 2.07, p = .04$. It is possible that the focus group participants were more engaged in the intervention, which could be one reason why a significant increase in peer support was observed in this subgroup. These supplemental quantitative findings converge with the qualitative results indicating the P2F intervention transformed peer relationships for focus group participants. Nevertheless, these findings should be considered with caution given that the increase in peer support was not statistically significant when evaluated using the more rigorous ITT approach. The ITT analysis accounts for all participants assigned to the intervention group, regardless of how many intervention sessions they attended. Young women who did not attend or sporadically attended P2F classes may not have benefitted from the environment created by the intervention, and thus, may not have experienced changes in peer support. Future research should explore if participant's level of engagement or "dosage" of P2F moderates the effect of the intervention on peer support.

An alternative explanation for the discordant findings is that the quantitative measure of peer support and the qualitative focus group procedures and questions may have resulted in data representing peer support and relationships with varying degrees of specificity. Peer support was measured using items that examined feelings toward and perceptions of support provided by peers in school. This global measure of peer support in the school context arguably provided less specificity than the targeted focus group questions examining participants' experiences in the P2F class. Future research should include quantitative measures of peer support or peer relationships specific to the context in which an intervention is delivered (e.g., classroom, group). The focus group questions also provided an opportunity for young women to describe the relationship changes they experienced as a

direct result of the P2F intervention. These direct exemplars yielded greater detail and nuance regarding the changes in peer relationships than what can be obtained from a four-level Likert scale.

The use of focus groups to ascertain the lived experiences of young women who participated in the intervention allowed a greater exploration of the intervention's effects on the peer relationships of participants than would have been possible through quantitative analyses alone. Our reconciliation of the discordance between the two types of results indicated additional quantitative measures may be critical to future studies examining the effects of similar interventions and highlights the importance of utilizing mixed methods for randomized controlled trials.

Implications for Practice

School staff should consider ways in which they can leverage gender-specific activities and classes, such as P2F, as opportunities to facilitate improvements in social skills, self-knowledge and -confidence, and the development of relationships among young women with disabilities. For young people with disabilities in particular, who may experience opportunity barriers to developing peer relationships (Asmus et al., 2017), these school experiences are a potential avenue for developing, expanding or strengthening their social networks. School staff should carefully consider how a disability focused class may exacerbate opportunity barriers students with disabilities face in the school context. For students who are in more restrictive placements or who are excluded within inclusive placements, a disability specific course has the potential to reinforce barriers to developing relationships with peers without disabilities. Inclusive, gender-specific activities and classes may provide an alternative to disability focused ones for those in more restrictive environments with limited access to peers in general education settings. Any gender-specific activities and classes should pay particular attention to how social dynamics are managed through teacher attunement, management of the social ecology, students' social opportunities and experiences, synchronous relationships and interactions, and students' social features and skills (Farmer et al., 2018) to ensure these experiences maximize the effects that such a transformative space offers.

Limitations and Implications for Research

There are several limitations to this study that provide implications for future research. First, although the qualitative sample included participants from the larger quantitative sample, these two samples differed. We were unable to conduct focus groups with control group participants to understand their perceptions of peer support and relationships in their classes and understand how peer relationships develop in different classroom environments. Therefore, we were limited in our ability to make direct comparisons using qualitative data to identify features

unique to intervention group participants. Further, participants with a greater number of teacher reported academic and social barriers (e.g., difficult family circumstances, mental health issues, chronic absenteeism) were less likely to participate in focus groups, as such, the themes reported here may not be reflective of their experience. Additionally, participants rated relatively high levels of peer support at pre-intervention (i.e., average of "agree" on a four-level Likert scale ranging from "strongly disagree" to "strongly agree"), making it difficult to predict change between pre- and post-intervention on this measure. Future research should use more comprehensive and sensitive measures of perceived peer support, as well as evaluate the effects of P2F among participants who experience lower levels of peer support as compared to current study participants. The peer support measure used in the current study examined feelings toward and perceptions of support provided by peers in school, which could include peers across the entire school context, and is not specific to the intervention context or individual relationships. To examine changes in relationships and support with individual peers, future research could utilize social network data collection methods to measure the ego networks of participants (e.g., name generator/interpreter instruments; Marsden, 2011). Such methods could measure the changes within individual participants' networks and the development of a classroom network as a result of participation in an intervention.

In this study, we used a mixed methods convergent design to assess whether participation in a gender-specific, disability focused intervention, P2F, was associated with changes in peer support and relationships, and understand how peer relationships can be influenced by such interventions. The quantitative and qualitative findings diverged. Whereas the quantitative findings indicated that assignment to the intervention condition was not significantly associated with changes in peer support relative to the control group, findings from the qualitative data indicated that many participants experienced a transformation of peer relationships. Our qualitative findings shed light on possible mechanisms by which gender-specific, classroom-based interventions can help develop peer relationships among young women with disabilities. Furthermore, our quantitative findings from the focus group participants only suggests it is possible that the intervention influences peer support for those most engaged in the intervention, however future research should confirm such conclusions with more rigorous designs.

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Table 1

	Quantitative sample (n =366)	Qualitative sample (n=112)
Racial identity		
White	225 (61.5%)	61 (54.5%)
Multiethnic	49 (13.4%)	21 (18.8%)
Other/unknown	44 (12.0%)	16 (14.3%)
Black/African American	17 (4.5%)	5 (4.5%)
American Indian/Alaskan Native	16 (4.4%)	2 (1.8%)
Asian American	6 (1.6%)	1 (<1%)
Native Hawaiian/Pacific Islander	2 (<1%)	1 (<1%)
Missing	7 (1.9%)	5 (4.5%)
Hispanic/Latina	71 (19.4%)	19 (17.0%)
Grade	10.59 (0.98)	10.68 (1.00)
Disability category		
Specific learning disability	202 (55.2%)	57 (50.9%)
Other health impairment	54 (14.8%)	17 (15.2%)
Emotional disturbance	22 (6.0%)	7 (6.3%)
Intellectual disability	22 (6.0%)	5 (4.5%)
Unknown	21 (5.7%)	11 (9.8%)
Speech or language impairment	14 (3.8%)	6 (5.4%)
Other[a]	25 (6.8%)	3 (2.7%)
Missing	6 (1.6%)	6 (1.6%)
Academic and social barriers	0.91 (1.11)	0.84 (0.95)

Note. The qualitative sample is a subsample of the quantitative sample. [a] autism; visual, orthopedic, or hearing impairment; traumatic brain injury; deafness.

Table 2

Themes and Coding Applications

Themes	Definition	Number of schools	Number of Code applications
Transformation of space			
"Girls-only" class	Being with only young women facilitated openness, trust, and sharing	13	42
Transformation of peer relationships			
Closeness	Increased feelings of closeness with students in the class characterized by knowing, trusting, feeling understood, or like family	11	70
Increased social connections	Examples of how participating in the class helped the young women to have more social connections inside and outside of the class, although these did not rise to the level of friendship	10	36
New friendships	As a result of the class new friendships developed	9	22
Transformation of self			
Knowledge & skills	Young women describe new skills or knowledge or skills they improved in the class that impacted current or future relationships	11	56
General social skills	An overall improvement in skills that allow participants to have improved interactions with peers.	7	13
Communication skills	Development of communication skills (Communicating wants and needs, reading body language)	10	23

(continued)

Table 2 (Continued)

Themes	Definition	Number of Schools	Number of Code Applications
Self-awareness	Young women describe increased self-awareness (including being yourself, more confident, or more open) that impacted current or future relationships	10	25
Seeing yourself & others differently	Change in the way you see yourself, including identity or the way you see other people	6	9
Confidence & being yourself	Increase in self-esteem or confidence, openness, or being yourself	8	17

Table 3

Descriptive Statistics and Bivariate Correlations of Study Variables

	Control (n =213)	Int. (n =153)	Int. FG (n=112)	Total sample (n = 366)					
	M(SD)	M(SD)	M(SD)	M(SD)	1	2	3	4	5
1. Post-Int. PS	2.97 (0.61)	2.97 (0.57)	2.99 (0.56)	2.97 (0.59)	-	-	-	-	-
2. Pre-Int. PS	2.96 (0.60)	2.85 (0.62)	2.85 (0.67)	2.92 (0.61)	.54***	-	-	-	-
3. Grade	10.48 (0.93)	10.74 (1.04)	10.68 (1.00)	10.59 (0.98)	.02	-.05	-	-	-
4. BIPOC[a]	-	-	-	-	-.01	.03	.01	-	-
5. Time between assessments	162.42 (67.97)	171.02 (76.67)	167.73 (77.11)	166.09 (71.82)	.00	.09	.23***	.07	-
6. Int. assignment	-	-	-		.00	-.09	.13*	.01	.06

Note. Int. = Intervention; FG = Focus Group; PS = Peer support; BIPOC = Black, Indigenous, and People of Color. [a] Reference group is non-Hispanic/non-Latina White. *** $p < .001$, ** $p < .01$, * $p < .05$.

Table 4

Slopes and Intercepts Outcome Model Predicting Post-Intervention Peer Support (PS) Scores

	Coefficient	*t*	df	SE	*p*
Individual-level variables					
Intercept	1.43	9.62	11033	0.15	<.001
Pre-Int. PS	0.53	12.48	130682	0.04	<.001
Grade	0.04	1.45	160522	0.03	.15
BIPOC[a]	-0.05	-0.97	69800	0.05	.33
Time between assessments	-0.001	-1.37	1396212000	<0.001	.17
School-level variables					
Int. assignment	0.04	0.74	130682	0.04	.46

Note. Int. = Intervention; PS = Peer support; BIPOC = Black, Indigenous, and People of Color. [a] Reference group is non-Hispanic/non-Latina White.

Figure 1

Stages of the Convergent Design