Inclusion

It "Goes Both Ways": The Impact of Peer-Mediated Interventions on Peers
--Manuscript Draft--

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Abstract

Peers have a prominent place within peer-mediated interventions (PMI). Understanding how they

might benefit from their experiences supporting students with disabilities is an emerging area of

much-needed research. This qualitative study was designed to identify the breadth of ways peers

report being affected by their diverse experiences. We held eight focus groups with 41 secondary

and postsecondary peers involved in PMIs alongside students with intellectual and

developmental disabilities. They described nine distinct areas of impact: social impact, personal

growth, changes in views, rewarding impact, skill development, advocacy, future intentions,

academic impact, and negative impact. We provide recommendations for research and practice

aimed at understanding the reciprocal impact of these widely advocated interventions.

Keywords: peer-mediated intervention, peers, intellectual and developmental disabilities

It "Goes Both Ways": The Impact of Peer-Mediated Interventions on Peers

Peer-mediated interventions (PMIs) are an effective approach for including students with intellectual and developmental disabilities (IDD) in everyday school life and learning. This category of educational practices involve formal and sustained experiences in which same-age peers without disabilities are taught or directed by an educator to implement instructional programs, behavioral interventions, and/or facilitate social interactions in support of students with disabilities (Chan et al., 2009). Several different types of PMI are commonly used in secondary and postsecondary schools, including peer support arrangements, peer mentoring, peer networks, and peer partner programs (e.g., *Best Buddies, Peer to Peer*; Carter, 2018; Carter et al., 2019; Matthews et al., in press). Although each PMI involves peers in supporting their schoolmates with disabilities, they can vary in the criteria used to select peers and students, the roles peers assume, the training peers receive, the locations in which students spend time together, and the support peers receive from adults. Studies find that these PMIs can improve academic, social, and other outcomes for youth and young adults with intellectual disability, autism, and multiple disabilities in a variety of school settings (Brock & Huber, 2017; Carter, 2021; Hume et al., 2021; Steinbrenner et al., 2020).

Although most research on PMIs has examined their impact on students with disabilities, some studies suggest they can also benefit participating peers without disabilities. Three recent literature reviews have synthesized the ways in which peers have been impacted by these inclusive experiences. First, Schaefer et al. (2016) reviewed 53 experimental studies addressing PMIs for students with and without intellectual disability in elementary, middle, and high schools. When evaluating the impact on participating peers, the review authors focused primarily on observable academic and social behaviors. In studies addressing academic outcomes, all peers maintained or improved their academic engagement or performance; no adverse effects were

found. In studies addressing social outcomes, almost every study documented increases in the

social outcomes of peers (e.g., initiations; responses; interaction type, quality, and duration).

Next, Travers and Carter (2021) reviewed 98 survey, qualitative, and experimental

studies addressing PMIs for middle or high school students with and without intellectual

disability, autism, or multiple disabilities. Two thirds ($n = 66$) of these studies examined the

impact on peers through interviews, surveys, observations, student essays, and/or informal

conversations. The review authors used thematic analyses to identify ten primary areas in which

peers were positively impacted by their experience: (1) social impact (e.g., development of new

friendships, new or maintained social interactions); (2) changes in views of people with

disabilities (e.g., changed affect toward, expectations of, or comfort around people with

disabilities); (3) changes in future intentions (e.g., new or renewed interest in being involved

with/supporting individuals with disabilities in the future); (4) academic impact (e.g., increased

academic engagement, or changes in grades); (5) development of knowledge of disability (e.g.,

increased knowledge regarding types of disabilities, specific individuals with disabilities, how to

interact with individuals with disabilities); (6) development of personal qualities (e.g., patience,

compassion, outgoingness, responsibility), (7) skill development (e.g., communication and

intrapersonal skills); (8) changes in self-perception (e.g., development of feelings of pride, a

sense of accomplishment, self-worth); (9) enjoyment (e.g., feelings of joy and enjoyment of

experience in PMI); and (10) general benefits not further specified.

Finally, Carter and McCabe (2021) reviewed 37 survey and qualitative studies addressing

the implementation of PMIs at the postsecondary level for students with and without IDD. More

than half ($n = 24$) of studies examined how peers felt they were positively impacted by their

formal (e.g., academic tutor, job coach) or informal (e.g., classmate, coworker) experiences

providing support. The review authors used thematic analysis to identify six primary ways in

which peers perceived they benefitted: (1) professional impact (e.g., change in major or career plans), (2) disability attitudes (e.g., views of students capabilities, commitment to inclusion, increased comfort), (3) social impact (e.g., new friendships, social growth) , (4) personal growth (e.g., greater confidence, compassion, tolerance, life skills), (5) academic impact (e.g., work ethic, enjoyment of class), and (6) remuneration (e.g., course credit, monetary payment).

Findings from this diverse collection of studies suggest that both secondary (middle and high school) and postsecondary (college) peers who support fellow students with IDD may have much to gain from their involvement in PMIs. However, additional research is needed to deepen the field's understanding of how peers might be impacted by these inclusive practices. First, the examination of peer impact has often been a secondary or incidental focus. In the Travers and Carter (2021) review, only 66 out of 98 identified studies noted any examination of peer impact. Moreover, only 10 of the 66 studies incorporated an experimental design that allowed for causal claims related to peer outcomes. Most frequently, findings of peer impact have been based on a single survey or interview question, or extracted from existing documents (e.g., journals or peer assignments). Second, most studies have focused on only one (or a few) of the myriad areas in which peers might be impacted. For example, no single study included in the Travers and Carter (2021) review examined whether peers were impacted in all ten areas of potential impact identified across studies. No study has yet to comprehensively focus on peer impact. A richer portrait of the impact PMIs have on individual peers who participate in diverse experiences (i.e., PMI approaches) and environments (i.e., school levels) could help make a stronger case for the reciprocal nature of these widespread interventions.

This qualitative study was part of a larger project to develop and validate a new measurement tool to capture the multiple ways in which middle school, high school, and post-secondary peers report being impacted by their involvement in PMIs. To ensure this new

measure would be inclusive of the myriad ways peers might be impacted, we intentionally involved peers who had participated in a variety of PMI experiences across different settings and school levels. We held multiple focus groups with secondary and post-secondary peers to identify the breadth of ways in which they had been impacted by their experiences. Our analyses focused on the following research question: In what ways do peers report being impacted by their involvement in PMI?

Method

Participants and Recruitment

Participants must (a) have participated in a PMI (e.g., peer network, peer support arrangement, peer partner program, peer mentorship program) alongside at least one student with an IDD; (b) have been a middle school, high school, or college student when participating in the PMI the prior year; (c) spoke English as a primary language; and (d) have had access to technology needed to participate in the virtual focus group (i.e., Zoom capabilities). Participants included 41 peers (grade range: 7th grade thru recent college graduate; *Mdn* age = 19) from two states (see Table 1). The preponderance of females is consistent with prior reviews of PMIs. Peers reported working with an average of 7 students with IDD (range: 1-60, *Mdn* = 4) as part of their PMI experience. Table 2 displays the demographics of students with IDD. Finally, 87.8% of peers received some training prior to their PMI experience. Specific training procedures, as well as the quantity and quality of the training peers received, varied by peer. We have summarized training methods, as well as other information related to the peers' PMI experiences, in Table 3.

We purposefully recruited peers using criterion sampling (Creswell & Poth, 2018). We actively sought peers who varied in age and PMI experience (e.g., from less to more intensive; from social to academic focused) as we wanted to capture the full range of ways peers could be impacted, anticipating that not all PMI experiences would produce all areas of impact. In this

early phase of the project, we were not focused on addressing how different PMIs may have contributed to different areas of impact. We worked with four low-incidence consultants for state regional education cooperatives; one project director for a state-wide peer partner program; one state-level Unified Sports director; and 10 special educators and administrators. We described the purpose of the study, the inclusion criteria, and how we would share study findings back with them. We also asked to be connected to the PMI point person (e.g., school-level peer program coordinator, special educator) who could send initial recruitment emails to peers or their parents (for those under 18) on our behalf. This approach ensured that all invited students had relevant PMI experience.

The recruitment email sent to parents/guardians or peers (18 years of age or older) included information about the study and a link to an electronic consent form. When parent/guardian consent was provided, we emailed study information to their child and a link to an electronic assent form. We indicated that each peer who participated in the focus group would receive a $20 gift card to a choice of store. In addition, peers who completed a follow-up survey (findings reported elsewhere) would receive an additional $10 gift card. We continued recruiting peers until our analyses indicated we had reached saturation (i.e., all new areas of impact were duplicative of previously identified areas).

Focus Groups and Data Collection

We used focus group methodology to examine the breath and range of ways middle school, high school, and post-secondary peers perceived they were impacted by their involvement in PMI. After receiving Institutional Review Board approval, we held eight focus groups over two months. They ranged in size from four to eight participants (*Mdn* = 5), lasted approximately 60 min each, and took place virtually via Zoom due to the global COVID-19 pandemic. Each focus group was composed of similar-aged students (i.e., middle school and

young high school students, older high school students, college-aged students). We developed a semi-structured interview protocol (available by request) consisting of two primary questions: *In what ways were you impacted by you experience as a peer (positive or negative)? What aspects of your peer program do you think contributed to these impacts?* We used follow-up probes to elicit specific examples, evoke additional detail, or request clarity. After discussing these two questions, we introduced more targeted questions about any of the ten impact areas identified in Travers and Carter (2021). For example, if the theme of academic impacts did not naturally emerge during the earlier discussion, we specifically asked if peers were impacted academically. Although the interview protocol ensured consistency in coverage across groups, we adopted a conversational approach to give participants latitude to expand and comment on any topics they considered relevant. A notetaker captured nonverbal responses (e.g., head nods, thumbs up). All focus groups were audio recorded, transcribed, and de-identified. We continued holding focus groups until we reached saturation (i.e., new areas of impact were not being identified).

Data Analysis

We adopted a team-based approach to analyses to enhance the trustworthiness of our findings (Patton, 2002). The coding team was comprised of three special education graduate students; a special education faculty member served as a peer auditor. Data analysis began as each transcript was completed and continued as an iterative process across three phases of coding. During each phase of the coding process, and for all eight focus groups, each member of the coding team began by coding all transcripts independently. Before moving from one phase of coding to the next, the three coders came together to discuss emergent themes and sub-themes.

Phase 1. Each of the three coders independently read the responses of each peer participant several times, looking for statements or phrases that related to the ways in which peers were impacted. We each highlighted these statements (ranging from a single sentence to an

entire paragraph) and translated them into "formulated meanings" (Creswell & Poth, 2018). We

defined a formulated meaning as an early iteration of a theme—a comment made by the

researcher about how the highlighted text related to the research question. Each section of

highlighted text could have one or multiple formulated meanings attached to it. For example,

consider the following quote from a high school peer, "I would say that I've really grown in my

patience. I've also grown in my ability to communicate to all audiences, which I think is really

critical for me. That's for what I want to go into, communication is essential." This entire section

of text was highlighted, and the first coder created the following three formulated meanings: (1)

"The peer developed their patience as a result of participating in a PMI"; (2) "The peer

developed their communication skills- they feel they are able to communicate with a more

diverse audience"; and (3) "The peer feels that they learned skills that are necessary for their

future." The number of formulated meanings per focus group averaged 66 (range, 51-92).

After the independent coding of all data, we calculated coding reliability on the

highlighted passages to determine the consistency with which the three coders independently

recognized the same passages as addressing peer impact. We conservatively defined agreement *a

priori* as having at least 80% of the same words highlighted within a single peer's response. We

calculated intercoder agreement as the total number of agreements divided by the total number of

agreements plus disagreements multiplied by 100. Intercoder agreement ranged from 66.2% to

88.1% across focus groups and coding pairs (overall average of 77.2%). For any disagreements

involving the number of words coded (e.g., one coder highlighted more of a passage than the

other), the longer passage (and corresponding formulated meaning) was carried into the

subsequent coding phase. For any disagreements wherein one coder highlighted a

statement/passage, and the other coder did not highlight any text, the coders discussed the

highlighted text and came to consensus about its inclusion in phase 2 of coding. Most

disagreements related to the number of words that were highlighted.

Phase 2. We next worked to reduce the number of formulated meanings to generate a non-redundant, yet robust, list of all the ways peers indicated they had been impacted by their experiences. We read and re-read each list of formulated meanings from each of the eight focus groups. This resulted in eight initial themes: *social* (e.g., friendship development, changes in interaction, participation in social events), *personal growth* (e.g., patience, compassion, empathy, change in expectations of students), *changes in views* (e.g., improved or more holistic views of individuals with disabilities), *rewarding* (e.g., feel good, general enjoyment, happiness, improved quality of life), *skills* (e.g., setting personal boundaries, time management skills, communication skills, job skills), *advocacy* (e.g., comments related to becoming a better advocate, wanting to advocate or become a more informed advocate, examples of advocating), and *negative impacts* (e.g., stress, tiring/draining experiences, frustration or guilt). The eighth theme of *other* incorporated all formulated meanings that did not fit well under the other seven themes. The three coders each independently sorted the formulated meanings from Phase 1 into the eight identified themes. After completing coding for the first four focus groups, we created two additional themes: *future plans* (e.g., pursuing a major or career focused on disabilities or future involvement with individuals with disabilities) and *academic* (e.g., changes in grades or academic engagement). Following the addition of the two themes, we independently re-coded all data to ensure all formulated meanings were appropriately sorted into the 10 themes. As in Phase 1, we again calculated coding reliability between each of the three coders. Intercoder agreement across focus groups and coders ranged from 66.7% to 91.7% ($M = 81.4\%$). For all disagreements, the three coders discussed the formulated meaning and came to consensus about the most appropriate theme in which to sort it.

Phase 3. Each of the three coders independently clustered formulated meanings in each

of the ten themes to identify distinct sub-themes. Unique formulated meanings within a theme that did not cluster to form a sub-theme were retained. Moreover, formulated meanings that were initially sorted into the *other* theme during Phase 2 coding were re-reviewed to determine if and where they fit within the remaining nine themes. All formulated meanings initially sorted into the *other* theme were successfully re-sorted during Phase 3 into one of the other nine themes.

We used several strategies to enhance the credibility and trustworthiness of the data (Brantlinger et al., 2005; Creswell & Poth, 2018). First, an audit trail documented both raw data (i.e., interview times, transcripts, interviewer reflection sheets) and data analysis (i.e., from all steps of coding). Second, we reduced bias during analysis by using a team-based approach with consensus coding on discrepancies. Third, a faculty member with expertise in PMI provided peer debriefing and critique. Fourth, we conducted member checking in two ways. First, during each focus group, the first author regularly restated what participants shared and asked for affirmation. Second, as a more formal way of conducting member checks with as many participants as possible, we invited all peers to complete a follow-up survey addressing peer impact; 39 agreed to participate. We designed the focus groups to identify as many areas of reported impact as possible. However, the group interviews did not provide enough time for every peer to comment personally on every thematic area that arose. Therefore, the follow-up survey allowed us to assess how well the peers agreed we have captured their beliefs about impact. The survey also allowed us to determine if the ideas shared collectively across all eight of the focus groups were also affirmed by each individual peer. Peers completed the survey online using REDCap (Harris et al., 2009). Agreement on each of the survey items was high across peers, indicating a high level of trustworthiness.

Findings

All 41 peers strongly affirmed that they were positively impacted by their involvement in

a PMI in which they worked with and supported at least one student with IDD.

Theme 1: Social Impact

Across the eight focus groups, 120 formulated meanings discussed by 38 peers (92.7%) related to social impacts. Social impacts fell within two sub-themes: (a) developing friendships with students with IDD and (b) finding a sense of community.

Friendship Development

Eighty-six formulated meanings related to developing a friendship. Regardless of where peers supported students (e.g., general education classroom, cafeteria, other non-academic contexts) or the area in which they provided support (e.g., academics, social interactions), peers of all ages said that friendship development was common to participating in a PMI. Reflecting on the friendship he developed, one middle school peer who supported a student with autism spectrum disorder (ASD) in a general education class stated, "I feel like when it first starts off, we need to help the student in class. And then you build friendships along the way." Several peers also described the relationships they formed as distinctive and of high quality. For example, one college peer who supported multiple students with IDD in non-academic contexts stated:

> I always try to surround myself with people that are going to—this might not be the right word—but they're going to enhance my life and make me feel better about myself and constantly lift me up. And I do the same to them. And that's what a lot of the students [whom I supported] were doing for my life. They're adding to my life and not taking away anything. And I just felt like it was just such a special friendship and just one that I haven't had before.

Another college peer who supported a student with an IDD multiple times a week shared:

> My students are a lot more raw than other relationships that I have just because it's—I don't know—they're just more honest. And this is kind of a generalization—obviously it differs from person to person—but the students that I've worked with tend to be a lot more intentional with relationships. And they really value and invest in the relationships that they're making; not only with me, but also with each other.

All peers who worked with multiple students with IDD were clear that they did not develop the same quality of relationship with every student; some relationships were deeper or different than others. Peers with similar interests or personalities found it easier to develop a friendship.

Although most peers spoke of the reciprocal and mutually beneficial nature of their friendships, two peers shared alternate opinions. One college peer who served as an academic tutor stated, "I find myself limiting my conversation to very PG ideas," which differed from her other friendships. A similar sentiment was shared by a high-school aged peer who supported students with IDD in multiple contexts:

> I feel like they do feel like a friend. Maybe not a friend that you can tell them about your problems, but they will talk to you about theirs and how their night was and how their weekend was. And it's really sweet and it makes you feel good that they trust you enough to tell you about what happened in their weekend and how their day is going.

Although she felt comfortable listening and supporting students with IDD, these relationships were not always marked by reciprocity in these areas.

Another dimension of some friendships was their longevity. Several peers emphasized the enduring nature of their friendships, noting it as an indicator of quality. For example, one college peer who supported multiple students at lunch and non-instructional times said:

> [The student whom I supported] graduated. He's done. But he still lives in [the same city as me] so he calls me up. We're getting lunch next week, so yeah, these relationships definitely could last if you want them to. Because again, I feel like the students do a really good job of being intentional with relationships. You just kind of have to reciprocate that.

Sense of Community

Eleven formulated meanings related to how peers' social networks grew and they found a new community of students at school in which they felt included and supported. One college peer who provided both academic and non-academic support reflected:

> I feel like the program has come with that unity. Because even if I don't necessarily know a specific [peer] mentor, all the mentors know that we can come to this big group that

we've formed. With such a big university, I think it's great to have a little family group.

Another peer who supported students with IDD in multiple diverse contexts shared about a

unique program element at her high school to help peers connect with other peers.

> We also have another thing in [my school] called case conferences where we get together every month. It's nice because it just helps you realize that you have more people sharing the same experience as you. You just never feel like you're alone because there's obviously hard days with your [students]. So it's just nice to get together and talk with other people who are sharing the same experience as you.

Theme 2: Personal Growth

Sixty-four formulated meanings shared by 29 peers (70.7%) related to peers' personal

growth resulting from the PMI. The three sub-themes included (a) developing patience toward

themselves and others, (b) becoming more empathetic, and (c) references to other areas of intra-

personal growth.

Patience

Thirteen formulated meanings addressed how peers became more patient with the student

with whom they worked, with themselves, and with others. For example, one middle school peer

who supported students with IDD in a special education classroom stated:

> The biggest lesson is patience for me. I'm kind of an impatient person. I like to get things done right away and know the answer. But with [the students], I have to take a step back and take a breath and be patient. I think it's crazy for me even just working in this *Peer to Peer* program for just a few months or just a year. My patience levels have been so much better. I've just learned to take a step back and take a breath. It's okay if things take a little longer just for the sake of it being good instead of not right away. So I think patience is probably the biggest thing I've learned with this program.

Likewise, one high school peer who supported three students with autism and/or Down

syndrome said, "I have gained so much patience from this program. I was not a patient person,

but from sixth grade to now, I have so much more patience than I did."

Empathy

Nine formulated meanings were related to becoming more empathetic and understanding.

As with patience, empathy also extended beyond the students with whom the peers worked. For example, one college peer who supported five students with IDD at lunch or other non-instructional times shared, "it's just made me a more compassionate, empathetic, understanding person for everyone that I meet at school." Another high school peer who supported a non-verbal student with autism in varied classrooms reflected:

> I think it's really made my empathy bigger too. Because sometimes when we're doing certain things, it's like you want them to be where your brain is at or where you are. And they're not there. Sometimes that can be hard. Just physically hard. Sometimes emotionally hard.

Other Intra-Personal Areas of Growth

Across groups, 42 formulated meanings related to other areas of personal growth. Peers described developing pride in themselves; being less critical of themselves; feeling better about themselves; becoming more reflective, more creative, more confident, and/or more kind; learning how to find joy during challenging times; learning to be less competitive in all situations; learning how to cope with anger; improving their self-worth; and developing a deeper appreciation for life. For example, when asked if she felt proud of herself after participating in her PMI, one high school peer who supported a student with an IDD responded "I would say pride is half and half. I take pride as like a thumbs up for myself, not like a pride that I'm showing off to other people or like a trophy that I've won. I think it's self-pride [more] than like out in the open." When asked if she had developed greater feelings of self-worth, one college peer who supported a student with an IDD said:

> I feel like I can be hyper critical of myself sometimes. It's nice when I'm helping other people, because then I'm thinking about them instead of thinking about myself and the things I could do better. So I think that's been a benefit for me. That is generally a benefit I derive from serving others in any capacity, but it has been a benefit from this program.

Another high school peer who supported several students shared a similar sentiment:

> Sometimes you can feel a little discouraged, like, "Oh, my student's not getting it." But

you celebrate those little things. So I think just having those positive impacts during the day has impacted my mental health a lot. And again, self-worth. I feel like I have a purpose.

Theme 3: Changes in Views

Fifty-two formulated meanings shared by 21 peers (51.2%) related to changes in views of individuals with disabilities. Three sub-themes emerged related to changes in views: (a) improved attitudes toward individuals with disabilities, (b) raised expectations of individuals with disabilities, and (c) other changes in views.

Improved Attitudes

Several peers openly shared about their prior lack of knowledge and experience related to disability. For these peers, it was the change in their views of individuals with IDD that they felt was most impacted. For example, one college peer with no prior experience being around or interacting with individuals with IDD prior to her PMI experience shared:

> Before I was involved with [the peer program], I wouldn't say I had anything against people with disabilities. It was just I didn't know how to approach them…. During the training for [the peer program] as a peer mentor, you get to learn about each student individually, what works for them, what doesn't work for them. I think that's where it started to change my views, just to see they're all people, too. They're all college students, too. They're all doing the same thing we're doing. You can approach them as college students…. I think it has tremendously overall changed my views.

Another college-aged peer with aspirations of becoming a secondary education teacher and limited experience working with individuals with disabilities said:

> I just hadn't had a lot of experience, I guess, in relating to people with disabilities. And so I had a lot of learning to do. And I think that's made me a better person and a better teacher now, like just having that experience.

Increased Expectations

Some peers spoke about increasing their expectations for individuals with disabilities. This was particularly common among peers who served as academic supports. When asked about the ways he was impacted, one college student who served as an academic mentor replied, "My

expectations. I think I had some real prejudice that I came into this with that I didn't know any

better. And the longer I've worked with these students, the more that that gets pushed out or

kicked out."

Other Changes in Views

Many peers came to understand that individuals with disabilities are unique and that

disability does not define a whole person. For example, several peers came into the PMI thinking

that any two students with autism likely would learn, communicate, or behave in the same way.

Their experiences in PMI helped them to dismantle these inaccurate preconceived notions and to

recognize the unique strengths and needs of each student with whom they worked. One college

peer who worked with three students with IDD shared:

> Not every disability means a certain outcome. Because obviously when you go into this,
> and you don't know the disabilities, you just see different interactions. And for all you
> know, everyone has the same disability…. But it's still different with each student, they're
> still humans and they communicate differently and have different interests and the
> disability doesn't make the person.

This sentiment was echoed by another high school peer who supported students with various

disabilities, "What I've really realized is that every student is different."

Theme 4: Rewarding Impact

Sixty-seven formulated meanings from 25 peers (61.0%) related to having a rewarding

experience. Peers described feelings of deep satisfaction falling within three sub-themes: (a)

helping others, (b) feeling gratitude through time spent with students with IDD, and (c) feeling

joy in seeing students grow and succeed.

Rewarded Through Helping Others

Twenty-seven formulated meanings related to feelings of satisfaction through helping

others. Peers saw themselves as capable of helping others and felt rewarded by doing so. For

example, one high school peer who supported students with multiple disabilities in various

contexts stated, "After my hour [with the students I support], I always feel so good, and I feel so

happy that I was able to spend time with that student and be able to help somebody." Some peers

also spoke how students with IDD provided support in return. One college peer said this resulted

in feelings of deep satisfaction and gratitude.

> I think a lot of times you go into it and you think, "I'm going to be mentoring a student," right? So the mentality going in was like, "I'm going to serve these people, and it's going to be cool. I'm going to see how I make a difference in their lives and see, just encourage them in their successes and stuff." But it kind of goes both ways a lot of times in a way you don't expect. I've been encouraged by my mentees so many times without them even probably knowing it. Just like their joy despite the struggles that they go through is so encouraging to me and inspiring for me to also kind of face my struggles with the same joy. So I think for me, it's been rewarding, because in a lot of ways that I was trying to serve them, I was served the same way back.

Rewarded Through Time with Students

Twenty-four formulated meanings related to increased happiness, feelings of satisfaction,

and gratitude as a result of spending time with the students with IDD. Peers reported feeling

happy, having a great time during their PMI, looking forward to school and/or the time they

would be able to spend with the students with whom they worked, having a better day, and

feeling a reduction of stress. For example, one high school peer who supported students with

IDD in both academic and non-academic contexts shared:

> It definitely has made my school days better because it's nice to take a break from all your normal gen ed classes and then to go work with these kids who really just love going to school. It definitely has been positive impact.

Another college peer who supported students in a variety of roles reflected on her experience:

> It makes me happy. On the way to work and I see when my schedules [include meeting with students], it makes me really excited! I look forward to that for the rest of the day. And it definitely makes me happy. It makes me feel like I'm doing something important and I'm doing something good. And when I'm with the students, you're always smiling.

Rewarded by Seeing Others Succeed

Sixteen formulated meanings related to the joy and pride peers experienced in seeing the

success and growth of the students with whom they worked. One college peer who supported

students with IDD shared:

> The most rewarding thing is to see the student's growth throughout their time… To see
> their growth from when they started to now where they are working and living on their
> own. It just makes me so happy.

Another college peer who estimated she worked with up to 60 students with IDD in a variety of

roles succinctly stated, "Just to see the growth has been very rewarding."

Theme 5: Skills Impact

Fifty-eight formulated meanings shared by 17 peers (41.5%) related to developing skills.

Skills impacts fell within three sub-themes: (a) communication skills, (b) de-escalation skills,

and (c) other skills for the future.

Developing Communication Skills

Twenty-three formulated meanings related to improved communication skills. Peers

shared that they had become better listeners, learned how to more effectively and more clearly

communicate, and had become more comfortable talking with students who do not use speech to

communicate. For example, one college-aged peer said:

> In the future, if I see someone who's struggling, or even if someone in my family has I
> guess ASD, I would know how to communicate with them and not bombard them with a
> bunch of questions. Kind of take a step back and slowly talk to them and not approach
> them so fast.

Another college peer described supporting the communication needs of a student with an IDD:

> I feel like I became a translator a lot, but in a way where it wasn't awkward for the student
> to be like, "Tell them I'm saying this, because they're not understanding me." So it was
> kind of a fun little challenge to try and make a circle of communication rather than a
> triangle of communication.

Developing De-escalation Skills

Eleven formulated meanings related to how peers learned de-escalation skills and

strategies to help students who presented with challenging behaviors. For example, a high school

peer shared about a student that she supported with challenging behavior:

> Another thing I've learned is the de-escalation strategies. The boy [who I support] can get extremely violent when he is mad. He has ripped a drinking fountain off a wall. I've gotten a concussion from him. So it's learning how to deal with that on my own has been extreme. But I'm really good at deescalating situations right now.

Developing Other Skills

Twenty-four formulated meanings related to other areas of skill development. These included time management skills and the ability to draw boundaries with others. For example, when speaking about how she balances her commitment to being a peer along with other schoolwork and life responsibilities, one college peer stated:

> [Being a peer] almost whipped me into shape to be like, "You have other priorities now, too. You have other responsibilities, so you need to get your homework done." So time management—I feel like it's helped me get better at it.

Theme 6: Advocacy Impact

Thirty-five formulated meanings from 13 peers (31.7%) related to increased or improved advocacy efforts. Advocacy impacts related to gaining knowledge to become a stronger advocate and gaining confidence to speak-up to others when they hear disparaging language about individuals with disabilities.

Twenty-one formulated meanings related specifically to growing in one's desire and ability to become a stronger advocate in the community. For example, one college student was influenced by seeing how well a student with IDD advocated for herself:

> These students are some of the biggest advocates for themselves, which is so important especially in college. And they're all learning so much. Working so hard. And it just inspires me and has made me want to be a bigger advocate for our students with disabilities after seeing how hard they work.

Ten peers mentioned that others in their school or community were not accepting of individuals with disabilities. They described how they spoke with students and staff to advocate for students with IDD and to attempt to shift attitudes. A peer shared how she had confronted other students

at her high school who were making inappropriate statements about students with disabilities:

> A big thing for me is that I've become a better advocate. Not just for my students—like at the school and speaking with other students—but just in general. Because you grow such strong relationships with the students. Like they're not just mentees. Like a lot of them, like you're friends with them. So if you hear any certain language or like preconceptions about students with disabilities, I feel like I'm more likely to say, "Hey, I really don't like that." Or even just, "Where are you coming from? Where'd you get this idea?'"

Similarly, a peer shared how she spoke with a faculty member at her college after a medical lecture focused entirely on the deficits associated with autism to the exclusion of strengths:

> I have had to have hard conversations with my professors in the past because of the way that they were showcasing autism or something like that. I had to have the conversation about, "You're only showing the negative sides of things and everybody has bad days. And that's not fair for you to highlight a whole group of individuals just by their bad days." And reasons like that. I've been able to help change curriculum slightly to a more positive outlook.

Finally, four peers spoke about educating their families about disabilities as a form of advocacy and several others talked more generally about their new passion for disability rights.

Theme 7: Future Impact

Twenty-seven formulated meanings shared by 27 different peers (65.9%) related to future plans and pursuits. Three sub-themes focused on the ways in which peers' experiences affected their (a) interest in future college majors or careers, (b) their desires to participate in future PMIs, (c) preparation for the future more broadly.

Pursuing Future Careers

Eighteen formulated meanings addressed their plans for a future career or future college major. Several middle and high school peers became interested in supporting individuals with disabilities professionally because of their PMI experience. Some even referred to this new career pursuit as their calling or vocation. As one high school peer stated, "[The peer partner program] impacted me enough to [influence] the career I want to go into. Helping me figure out what I want to do in the future. And it gives me a purpose in life, like, I found my purpose."

Another middle school peer who supported three students with IDD agreed:

> Working with them just always brings a smile to my face every single day. It's actually made me decide I want to go into special education for something to do with my life. So yeah. I mean, it's impacted me pretty big I'd say.

Some peers anticipated entering the field of special education prior to their PMI involvement.

But their experiences strengthened their resolve. For example, one high school peer said:

> I'm actually going to [name of college] for special education. Growing up with special needs people, I've always had a piece of that in my heart, and then the whole [peer] program, that just set it all on fire…I really enjoy it.

Anticipating Future PMIs

Three formulated meanings related to wanting to continue participation in PMIs in the future. For example, one middle school peer stated:

> I most definitely want to do it in high school. But at my school, because of the fact that in ninth grade there's a lot of classes you're required to take, it's not common for freshmen to end up being able to do [the peer program]. The last three years of high school, I definitely want to do it, and in freshman year if I'm able to.

Another example, a college freshman had participated in peer programs in high school, but she was new to the peer mentoring roles in her college program. She shared, "There's this impact for the students, but there's also a really big impact for the mentors. And so, me being new, I definitely will continue to do this because it does socially make me feel very whole and happy."

Feeling Better Prepared for the Future

The peers were not all interested in future work focused on supporting individuals with disabilities. However, three peers recognized that their experiences in peer programs better prepared them for other things that might lie ahead. For example, one high school student who had participated in a PMI for several years reflected:

> But for the future, because I've had multiple different students and you get a variety of backgrounds, so then you'll have a good background of understanding when later in life if you need to talk to somebody that has special needs, or they need help, like in a store, or somewhere, I feel like I'd be able to help them a lot better after this program.

Likewise, one middle school peer shared how she felt better prepared to support individuals with

disabilities whatever career she pursued:

> I personally don't really want to go into special education or even education in general.
> But I feel like this program has really helped me work with different kinds of people,
> which I feel can help [me] no matter what I choose for my career. I'm not really sure what
> I want to do yet. But I just know I'll be more prepared if I do end up working with people
> with disabilities or if I am a doctor and I have patients like that. I feel like it really will
> help me even if I don't specialize in [working with people with disabilities] or not. But I
> feel like it really can impact my career in a better way just because I have more
> experience working with a bunch of different kinds of people.

Theme 8: Academic Impact

Fifteen formulated meanings from 14 peers related to academic impact. Twelve of these

peers (85.7%) reported that their grades and academic engagement were not impacted negatively.

Several peers said that they were high-achieving students prior to the PMI and they remained so

throughout it and beyond. As mentioned by one peer and echoed by others, "my academics

haven't really been affected."

Some middle and high school peers were required to maintain a particular grade point

average to remain in their PMI, which motivated them to work hard academically. Several peers

also noted that they were motivated to be academic role models for the students with IDD with

whom they worked. For example, one high school student shared,

> I think it almost makes you try to set your goals a little higher, so then you can be a role
> model for them. Like if you show them that, for example, I use a planner to keep myself
> organized, and if showing them that maybe a planner would work for them and help
> them to keep their schoolwork organized. I think just really trying to set a goal and be a
> role model for them.

Only two peers mentioned challenges maintaining their academic standing. One high school peer

who supported a student in a general education class admitted she sometimes had trouble

concentrating in her own classes because she was worrying about the student she supported:

> Sometimes it's hard for me to focus on classes, because I'm thinking about my [student]

and, like, what's he doing? Is he okay right now? Especially because I have my fourth hour when he has his lunch. I know lunch hasn't been the easiest thing for him lately.

Moreover, a middle school student shared about a time several years earlier when she had trouble maintaining her grades while supporting a student with an IDD.

I let my social studies grade slip and it was just a C, so it wasn't that bad. But my teacher looked at me, he goes, "Hey, I'm going to take you out [of the peer program] if you don't get this grade up." I got my grade up. But I'd definitely say it does impact [my academics]. Because you're so focused on trying to make sure [the student is] doing good and they're going to get good grades. And then you forget about yourself.

Theme 9: Negative Impact

Thirty-three formulated meanings from 13 peers (31.7%) related to negative impacts. Across all focus groups, there were two sub-themes that crossed all grade levels: (a) feeling mentally and emotionally exhausted and (b) experiencing stress.

Draining

Nineteen formulated meanings related to ways in which peers felt emotionally, mentally, and/or physically drained from their PMI. For example, a college peer who supported multiple students with IDD as both an academic and non-academic support shared:

Not only is it tiring to put in the hours work of it, but the emotional work of having to always be on guard. Because we're not only just helping them with their schoolwork and stuff like that. We're always mirroring proper responses to things and how we should handle that. And so it's tiring sometimes to always be mirroring and have to always try to think out for yourself beforehand and how that will impact other people.

Such feelings were particularly common among peers who worked with students with challenging behaviors. They said they sometimes felt unsafe or stressed when asked to support a student whom they did not feel equipped to help amidst challenging moments. Moreover, one middle school peer who supported three students with autism or intellectual disability who had challenging behavior reflected on how the emotional stress impacted her relationships at home:

When I get home, I'm just emotionally drained because of the day that I had. I have a little brother—not really little, we're 18 months apart—and I lose it with him; especially

right after school. I guess when I say emotionally drained, I just mean, when I am with [students] or something, I bottle up my emotions because I don't want to take it out on them or anything. So when I get home, it's like, they all just come out.

Stress About the Success of Students

Twelve formulated meanings related to being stressed about the success of the students they supported. This was particularly true for peers who served in academic support roles. For example, one college academic tutor stated:

We kind of know what the student's week looks like, in terms of the academic load and also like the events that they need to be physically present at. So that sometimes gave me extra things to worry about, especially for students that I know are not, they're struggling to get some deadlines or get assignments due in the right time. Then I, throughout the week, I'm thinking about how much they have work. I'm constantly checking up on them to make sure that they're actually making progress in their assignments. So I think it just adds like extra thing for me to worry about, personally.

One high school peer also shared about how she was impacted by as an academic support:

For me, personally, I feel like it's an on again-off again kind of an ordeal. Because some days I make a lot of progress with my [student] and it goes really well. But then other days he'll freak out and it'll be kind of like nerve wracking, my confidence will go down in helping him.

Discussion

Given the increasing adoption of PMIs in secondary and postsecondary schools, it is important to understand how participating peers are impacted by their involvement. The purpose of this study was to provide a richer portrait of these potential benefits. Findings from the focus groups affirm the reciprocity that may be associated with PMIs. Our study extends the PMI literature in several ways.

First, youth and young adults who participate in PMIs involving students with IDD can be impacted in a variety of ways. We identified nine distinct areas to consider: social impact, personal growth, improved attitudes, rewarding impact, skills impact, advocacy impact, future impact, academic impact, and negative impact. Some of these same themes also emerged in prior

systematic reviews of the PMI literature (Carter & McCabe, 2021; Schafer et al., 2016; Travers & Carter, 2021). The prominence of the rewarding impact, however, was new. Many peers described feeling a deep satisfaction and joy in being able to support students with IDD, in spending time with these students, and in supporting their success. Indeed, several peers recognized the reciprocal support they received from the student(s) with IDD with whom they worked. Although PMIs are typically framed as beneficial interventions for students with IDD, the findings from our study suggest that a broader case can be made for adopting these approaches. The abundance of beneficial impact areas raised by peers should encourage educators and researchers to instead think of PMI as interventions that positively impact all participating students. Moreover, general educators or administrators looking to adopt interventions aimed at character building could consider PMIs as a potential approach.

Within the nine broader themes of impact, several sub-themes emerged that further elucidated the ways in which peers may have been impacted. Although each sub-theme was unique within its broader thematic category, some sub-themes across the nine thematic areas may indeed connect with others. For example, consider the three sub-themes "developing communication skills," "pursuing future careers," and "feeling better prepared for the future." Peers who felt they developed stronger communication skills may therefore have felt better prepared for the future, and more specifically, for a future career. However, the peers we interviewed did not make these connections directly themselves. Moreover, the data do not specifically suggest that these sub-themes are related (i.e., formulated meanings related to each sub-theme were distinct rather than from the same block of peer text). Future research is needed to understand the relations between PMISP:P sub-themes and themes to deepen our understanding of impact and improve measurement of peer outcomes.

Second, these benefits spanned age level and PMI experiences. Moreover, the benefits

were not constrained to a particular area (e.g., academics, personal growth). Instead, all of the

peers talked about multiple areas in which they felt they were impacted. Prior studies have only

addressed a single area (or a small number of areas) of impact (see Travers & Carter, 2021). By

asking about *any* area of impact in each of the focus groups, we were able to compile a fuller

picture of this broad impact. Although Schaefer et al. (2016) emphasized the social and academic

benefits experienced by peers in their review of experimental observational studies, there are

other less observable areas in which peers reported changes (e.g., personal growth, rewarding

impact, improved attitudes). Researchers and educators should continue to use direct

observations to confirm changes in social interaction and academic engagement. However, they

should also query peers directly about other ways in which the PMI experience shapes them.

Third, some peers did speak about negative impacts. These were limited to sometimes

feeling drained by the PMI experience or stressing over the success of the students with IDD.

Although not reported by most peers, these findings are important to attend to. Comments related

to feeling emotionally or physically exhausted were mostly raised by middle and high school

peers who supported students who exhibited challenging behavior. Likewise, feelings of stress

were raised only by peers who supported students with IDD academically. Future research is

needed to explore factors that may contribute to these negative experiences.

Limitations

Several limitations should be considered. First, few middle school peers participated in

our focus groups. Because the age of peers could influence the types of outcomes they

experience, future studies should focus more fully on the perspectives of these younger students.

Second, we did not attempt to triangulate the reports of peers with those of special educators or

other staff who observed them participating in the PMI. Although many peers reported new

friendships, growth in skills, and stability or increases in their grades, it is unclear whether others

in their midst would have also affirmed these findings. However, given the peers' openness to sharing about negative experiences during the focus groups, the anonymous nature of the follow-up member checking survey, and the way our findings mirror those of previous reviews of peer impact, we have confidence in the self-reported data from peers. Third, there may be some bias that resulted from our approach to recruitment. Although we emphasized wanting to hear from peers regardless of the quality of their experience, it may be that peers who had negative experiences had already dropped out of programs or they were not recruited by our points of contact.

Implications for Research and Practice

The findings of this study have important implications for research and practice. First, educators who implement PMIs in their schools should assess outcomes for peers, just as they do for students with IDD. Moreover, this examination of outcomes should extend beyond the social and academic domains. Knowing whether and how peers view their experiences as positive or negative can help educators refine peer-mediated approaches to enhance their impact. Likewise, exploring the factors that may be associated with negative experiences can help educators to minimize or eliminate the potential for these negative experiences (e.g., having peers support students with challenging behavior without enough adult support). Future research should examine the types of data educators are collecting about the students and peers who participate in PMIs and the ways they use these findings to guide their work.

Second, educators should share how peers are impacted with others within and beyond their schools. General educators and administrators may have concerns about whether peers without disabilities will be negatively impacted by taking on some responsibility for supporting students with IDD in inclusive classrooms. Similarly, parents of these peers may initially be reluctant to allow their children to participate in these programs. Addressing the multiple ways in

which peers report benefitting might help alleviate those concerns by showcasing the potential

reciprocity of these interventions. Future studies should also address the perspectives of those

school staff and parents who have had an opportunity to observe PMIs in action.

       Third, PMIs may incidentally benefit other students at a school who are not directly

involved. During the focus groups, several high school peers described how their PMI programs

were a prominent part of their school culture. They suggested that students did not need to be

directly involved to benefit from the presence of the program in the school. Future studies should

examine whether schoolwide PMI programs do indeed provide benefits to a wider segment of the

school community. Sharing this information could be particularly important for educators who

want to expand implementation of PMI in their schools.

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Table 1. *Demographics for Participating Peers*

Variable	*n* (%)
Total number of students	41
Current age	
13 - 15	7 (17.1%)
16 - 19	15 (36.6%)
20 - 22	17 (41.5%)
23 and older	2 (4.9%)
School level during PMI experience	
Middle school (7th - 8th grade)	2 (4.9%)
High school (9th - 12th grade)	16 (39.0%)
College	23 (56.1%)
Gender	
Female	33 (80.5%)
Male	8 (19.5%)
Race/ethnicity	
American Indian or Alaska Native	1 (2.4%)
Asian	2 (4.9%)
Black or African American	1 (2.4%)
Hispanic	0 (0.0%)
Multiracial	1 (2.4%)
White/Non-Hispanic	36 (87.8%)
Other	0 (0.0%)
Experience with individuals with IDD prior to PMI[a]	30 (73.2%)
Family member with IDD	10 (24.4%)
Friend with IDD	16 (39.0%)
On a sports team with someone with IDD	5 (12.2%)
In a class with someone with IDD, but didn't interact often	3 (7.3%)
In a class with someone with IDD, interacted often	15 (36.6%)
Previous experience in a peer program	13 (31.7%)
Other	6 (14.6%)

Note. IDD = intellectual and developmental disabilities

[a]Peers could select multiple response options

Table 2   Click here to access/download;Table;Table 2.docx ↧

Table 2. *Demographics for the Students with IDD with Whom Peers Worked*

Variable	*n* (%) of peers selecting response
Student disability[a]	
Autism spectrum disorder	28 (68.3%)
Down syndrome	14 (34.1%)
Intellectual disability	20 (48.8%)
Multiple disabilities	15 (36.6%)
Other	3 (7.3%)
I do not know	11 (26.8%)
School level of students with IDD[a]	
Middle school (6th - 8th grade)	7 (17.1%)
High school (9th - 12th grade)	16 (39.0%)
College	21 (51.2%)
Gender of students with IDD[a]	
Female	25 (61.0%)
Male	34 (82.9%)
Race/ethnicity of students with IDD[a]	
American Indian or Alaska native	1 (2.4%)
Asian	6 (14.6%)
Black or African American	15 (36.6%)
Hispanic/Latino	7 (17.1%)
Multiracial	9 (22.0%)
Native Hawaiian or Pacific Islander	1 (2.4%)
White/Non-Hispanic	38 (92.7%)
Other	2 (4.9%)
Primary communication modes of student with IDD[a]	
Verbal	40 (97.6%)
With pictures	6 (14.6%)
With manual signed (e.g., sign language)	7 (17.1%)
With gestures (e.g., pointing to something they want)	15 (36.6%)
Communication device	6 (14.6%)

Note. IDD = intellectual and developmental disabilities

[a]Peers could select multiple response options; they may have supported multiple students or the student(s) they supported may have had more than one disability

Table 3

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Table 3. *Characteristics of Peer-Mediated Intervention Experiences as Reported by Peers*

Variable	*n* (%)
Type of grouping for the PMI	
Paired with one student with IDD	16 (39.0%)
Paired with multiple students with IDD	22 (53.7%)
In the same group or on the same team as someone with IDD	3 (7.3%)
Location of the PMI[a]	
Core academic class	22 (53.7%)
Related arts class	9 (22.0%)
During lunch in the cafeteria	19 (46.3%)
Special education classroom	18 (43.9%)
Multiple locations	29 (70.7%)
Outside of school	12 (29.3%)
Other	1 (2.4%)
Frequency of contact during the PMI	
Multiple times a day	6 (14.6%)
Once a day	13 (31.7%)
A few times a week	15 (36.6%)
Once a week	5 (12.2%)
Once every few weeks	2 (4.9%)
Length of involvement in the PMI	
Less than a semester	3 (7.3%)
About one semester	6 (14.6%)
One or more school years	32 (78.0%)
Ways in which peers were recruited to the PMI[a]	
Recruited by a general education teacher	5 (12.2%)
Recruited by a special education teacher	12 (29.3%)
Recruited by a paraprofessional	2 (4.9%)
Recruited by a school staff member (not a teacher or paraprofessional)	2 (4.9%)
Recruited by a friend who had already participated in the PMI	12 (29.3%)
Recruited by a friend who wanted to participate together	7 (17.1%)
Volunteered after seeing a flyer	14 (34.1%)
Volunteered after someone made an announcement	8 (19.5%)
Other	10 (24.4%)
Do not remember	2 (4.9%)
Components of training provided to peers in advance of the PMI[a]	36 (87.8%)
Provided with information about disabilities or the specific student with IDD	28 (68.3%)
Verbal description of the PMI	29 (70.3%)
Written description of the PMI	24 (58.5%)
Explanation of the purpose of the PMI	31 (75.6%)
Opportunity to practice	6 (14.6%)
Adult modeling	15 (36.6%)
Video model	12 (29.3%)
Opportunities to ask questions	26 (63.4%)
Instructions on how to collect data on student with IDD	13 (31.7%)
Other	2 (4.9%)
Do not remember	1 (2.4%)

Note. IDD = intellectual and developmental disabilities

[a]Peers could select multiple response options