BUILDING COMMUNITY IN A RESEARCH PROJECT TEAM THROUGH IDENTITY SHARING

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This study presents the use of the Social Identity Wheel (SIW, Social Identity Wheel, 2021), to build community in a newly formed mathematics education research team. The SIW, originally built for use in classrooms, was used to allow each team member to share about themselves which led to the team learning about each other. The research focus of the team is to connect social and political issues to mathematics in elementary classrooms. Reflecting on identity and discussing social and political issues are essential components of this work. Hence, building community is part of fostering safe, productive environments in which to build these tasks. To better understand what building a community might look like, the project team used the Social Identity Wheel to build community within the team and get to know one another.

Keywords: Equity, Inclusion, and Diversity; Social Justice; Professional Development; Research Methods

Research suggests that understanding teacher identities in mathematics professional development (PD) can make PD more impactful. Teacher identities impact how they participate in PD, as well as what knowledge they both take up from the PD and how they implement PD ideas in their classrooms (Battey & Franke, 2008). Wager and Foote (2013) urge that mathematics and equity PD facilitators take teachers' lived experiences into account and view teachers as a resource. Moreover, implementing mathematical tasks that connect to social and political issues requires significant teacher reflection on their students' identities, their own identities, how these identities interact with the task context, and how these identities might interact with each other (Koestler et al., in press). Given this extant scholarship, it is important that professional development communities spend time reflecting on identities.

As part of a larger grant project, our team collaborates with a group of expert teachers in an ongoing PD setting to build mathematical tasks that connect to social and political issues. This work necessarily requires reflecting on identities and discussing social and political issues. To create a safe space for these potentially difficult conversations and to be able to better collaborate with each other and with the collaborating teachers, the project team considered ways that we could build community among ourselves. Particularly, our team wanted to create opportunities

for each of us to share about our identities in an effort to get to know each other better. Thus, we decided to use the *Social Identity Wheel* as one way to do so.

The Social Identity Wheel (SIW, *Social Identity Wheel*, 2021), which was developed at the University of Michigan, is one tool that can be used to support sharing about identities. Jacobsen and Mustafa (2019) suggested a similar tool, a Social Identity Map, intended to support researchers in beginning to "think deeply about how their assumptions translate into discussions with participants, influence their understanding of participants' experiences and lives, and how this impacts the way they code, analyze, and interpret findings," (p. 11). The project team wanted to collectively get to know each other better as a community and explore the model of using the SIW with people who do not yet know each other well. We chose the SIW as a vehicle to present ourselves to each other to work towards forming a community.

Theoretical Background

The study of identity in mathematics education has taken many paths: student identity (e.g., Aguirre et al., 2013), mathematics teacher identity (e.g., Battey & Franke, 2008; Wager & Foote, 2013), and researchers' identities (e.g., Glesne, 2011). Bartell and Johnson (2013) argue that researchers should openly talk about identity and their own privileged research positions to avoid paternalism and consider the role of their privilege in their research. Similarly, Foote and Bartell (2011) propose that "life histories provide a particular opportunity to explore researcher positionality that might be used more widely as a support to understanding the relationship among the researcher, the researched, and the research problem," (p. 65). Given that it is important for researchers to share and reflect upon their own identities and how their identities shape and impact their research, then it is arguably just as important for teams of researchers to share and discuss their identities in the context of the research team.

Identity is dynamic, mutable, and socially constructed (Park, 2015; Vygotsky, 1979). Naturally, theories about identity are manifold and complex. Sfard & Prusak (2005) argue that identity does not exist as a tangible object; rather, it is discursive in nature. This means that identities are collectively created and exist in the narratives that are told about individuals and that individuals tell about themselves. These narratives become part of an individual's identity when they are "reifying, endorsable and significant" (Sfard & Prusak, 2005, p. 16). Tangible tools like Social Identity Maps or Social Identity Wheels become a means of eliciting and supporting a person's narration of their identities (Jacobson & Mustafa, 2019). Further, Social Identity Wheels could allow individuals on a research team to narrate their various identities and identify the resources that they draw upon when constructing their narrative. In turn, this storying can become a part of the ongoing discursive construction of identity, particularly within the context of the research team. We treated these narrative identities supported by the SIW tool as a vehicle by which we might get to know one another. In this paper, we examine the research question: *How, if at all, does the SIW tool support the project team in getting to know one another?*

Methods

Social Identity Wheel Presentations

The SIW (*Social Identity Wheel*, 2021) is an oval wheel, with 11 social identity categories listed around the outside: age, religious or spiritual affiliation, race, ethnicity, socio-economic status, gender, sex, sexual orientation, national origin, first language, physical/emtional/developmental (dis)ability. There are five prompts in the center of the oval to help users reflect on their identity, including "identities you think about most often" and

"identities that have the greatest effect on how others perceive you." Each team member created a representation of their own responses to each of the categories on the SIW, placed these in a shared online folder, and narrated their SIW to the group at later team meetings. Questions, comments, and connections from other group members were encouraged after the narrator was done. Time for sharing and asking questions was intentionally not limited and included up to two SIW per meeting. In this paper we treat the initial presentation and the discussion that followed as one unit, and we call this unit the presentation. The mean and median average presentation times were 30 minutes with a range of 17 minutes to 45 minutes. Team members consisted of 4 project PIs, 5 graduate students, and 1 project manager who is also a graduate student. The PIs are Andrew, Bailey, Sandy, and Anna; the graduate students are Augusto, Jeff, Judy, Ellison, and Silvia; and the project manager is Sharon (all names are pseudonyms). Data collected for this study included recordings and transcripts of the presentations of each team member's SIW. Transcripts were broken into paragraphs by the constructs that they addressed (i.e., race, gender, etc.). Research team members then coded each presentation with the category of the SIW tool that was the focus of the paragraph. Multiple categories were coded if they were part of the same paragraph. Coding was done in MaxQDA. Visuals of each presentation were created based on the coding through MaxQDA.

Survey

After all SIW were presented, we surveyed all team members via Qualtrics to learn how presenting and listening to others presenting their SIW impacted the community formation. Questions included open and closed formats. Sample questions from the survey include:

- How, if at all, has this activity impacted your interactions with the group overall and/or specific group members?
- Were there things that you shared that you wouldn't have shared outside the group? If so, what were they, and why did you choose to share in this context?
- What, if any, were the benefits of having done this activity with our group?

Survey responses were coded using thematic analysis (Braun & Clarke, 2006) by a research team member to identify themes that appeared across multiple responses to each question and across multiple questions. For example, in response to Question B, participants wrote things like, "I am trying to become more open about who I am," "I felt like I needed to share [about my anxiety] to be honest," or "I felt like if I was going to convey an accurate representation of my identity… that [my mental health] was a very important piece that could not be left out." Initial codes for these responses related to representing oneself honestly and authentically. Participants also wrote things like, "[The other group members] shared some vulnerable details, so it felt like it would be unfair NOT to also be vulnerable" in response to Question B, or "As a faculty member on the grant I did feel some responsibility to be a bit more open and illustrative of the kinds of things that could be shared and included," in response to Question C. Initial codes for these responses related to desire for reciprocity in authentic sharing. Participants also referenced authenticity directly; one participant wrote, "After I shared, I felt like I was more able to authentically show up to the group in future meetings" in response to Question D. Together, responses like these and their initial codes constituted the theme of "authenticity and reciprocity," which emerged across multiple responses to the same question and across responses to different questions. This example is illustrative of the way in which themes were developed. The final themes are shared in the results section.

Results

Social Identity Wheel Presentations

Though all team members used the SIW to begin their reflection and sharing, the topics discussed during presentations varied. Figure 1 shows the visualizations of the topics discussed for each team member; this provides an overview of some of the major topics that team members talked about. Duration varied across SIW presentations, but their visualizations were resized so that all visualizations are approximately the same size despite any time differences.
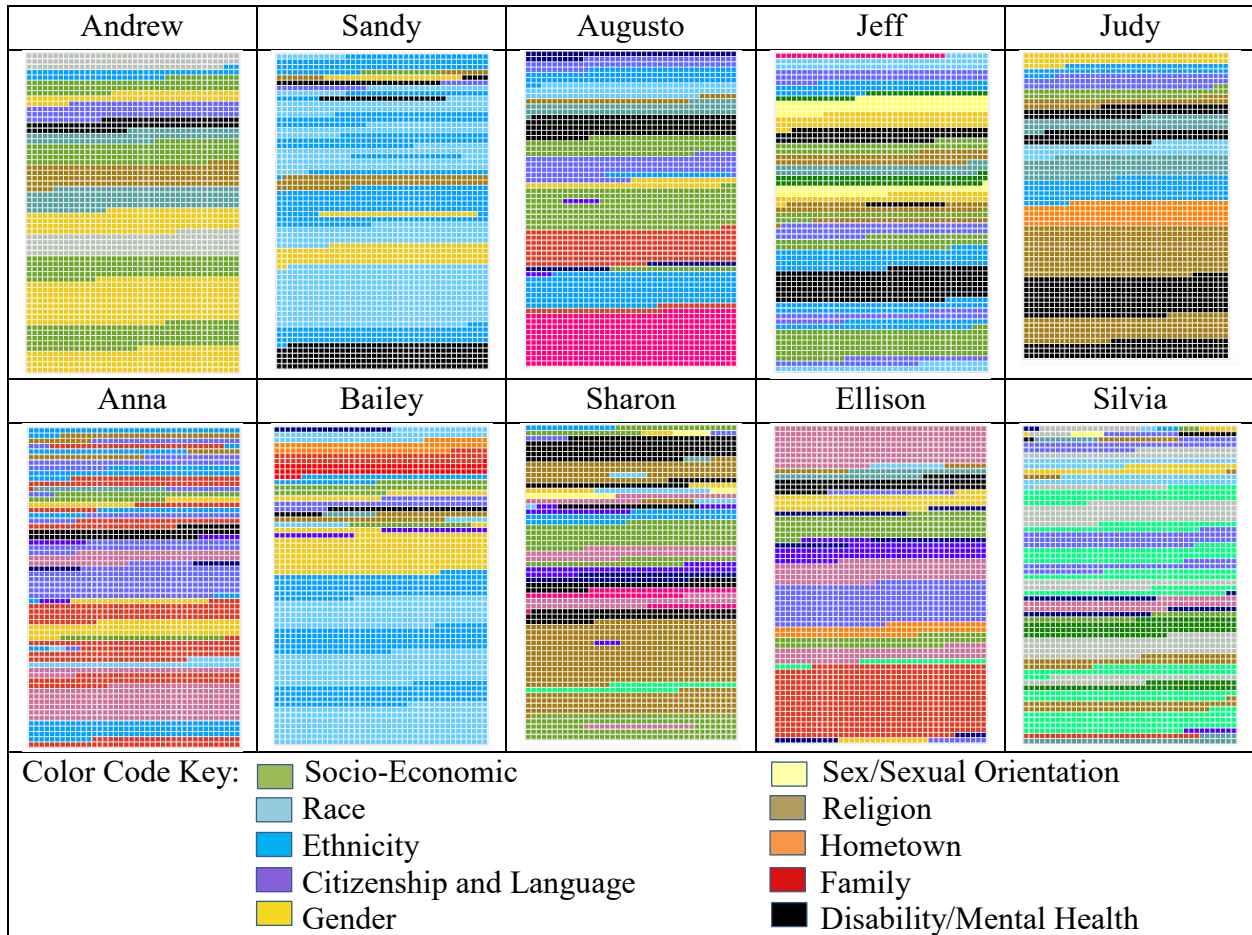
Figure 1: Visualization of topics discussed during team members' presentation of the SIW.
Note **The color code key includes only those codes that come directly from the SIW categories, or that came up across multiple presentations.**

Of note is that for half of the research team the themes of disability/mental health (Sandy, Jeff, Judy, Anna, Sharon), ethnicity (Sandy, Augusto, Jeff, Anna, Bailey), and/or socio-economic status (Andrew, Augusto, Jeff, Ellison, Sharon) showed up in the presentations during the discussion portion. Sex and/or gender (Andrew, Sandy, Anna, Jeff, Bailey) was also discussed by 5 team members during the discussion portion of the presentation. Religion was discussed by 4 team members (Sandy, Jeff, Judy, Sharon) during the discussion portion of the presentation. These topics typically do not get discussed in large research group settings but are learned about in more intimate conversations. For most of the participants the presentation and discussion focused mainly on 2 to 4 constructs.

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Survey Responses

   The theme that appeared most in the survey responses was "Community Building," with 66 occurrences across the 10 participants and 8 open questions. Four of the codes within this theme appeared at least 8 times and across at least 7 team members, with "increased interpersonal knowledge" (IIK) mentioned by all 10 participants, "bonding, community/relationship building" (BCRB) and "authenticity and reciprocity" (AR) mentioned by 8 of the 10 participants, and "teamwork" (TW) mentioned by 7 of the 10 participants. See Table 1 for the code counts.

Table 1: Code Counts for Community Building Theme

Team Member	Code Occurrences				Total
	IIK	BCRP	AR	TW	
Andrew (PI)	1	2	1	1	5
Sandy (PI)	1	1	2	1	5
Augusto	2	0	0	0	2
Jeff	2	0	0	1	3
Judy	1	2	3	1	8
Anna (PI)	1	1	1	0	3
Bailey (PI)	3	3	1	2	9
Sharon	2	3	2	1	8
Ellison	1	3	2	2	8
Silvia	1	2	1	0	4
Number of Team Members with at Least One Occurrence	10	8	8	7	
Total Occurrences Across All Team Members	**15**	**17**	**13**	**9**	

Note Codes are: increased interpersonal knowledge (IIK), bonding, community/relationship building (BCRB), authenticity and reciprocity (AR), and teamwork (TW).

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Increased Interpersonal Knowledge (IIK) Knowing more about someone does not necessarily mean that a bond or relationship is formed between individuals, so the code IIK is distinct from the BCRB code. However, some occurrences of IIK overlap with BCRB. For instance, Andrew said "I've enjoyed learning about others and I feel that it increases our intimacy and connection." The portion "I've enjoyed learning about others" on its own does not imply building an emotional bond but does emphasize learning about others, and so the response was coded with IIK. Because Andrew continued with "I feel that it increases our intimacy and connection," which indicates building relationship bonds, this response was then also coded with BCRB. Knowing about others and bonding with others *may* overlap, but they do not inherently overlap. Augusto and Jeff were the two group members who did not have any responses directly mentioning bonding with other group members, though they each had two instances of mentioning that they learned about others. Augusto shared that "I think for our group with such diversity, it was important to dive much deeper into our lives and backgrounds, and not just our names and professional credentials or programs and faces." Sharon felt that the activity supported "a deeper contextual understanding of a person's lived experiences." This knowledge of other team members was one benefit of using the SIW that Bailey identified: "I think one benefit is understanding people's backgrounds and identities, and knowing how they position themselves so that I don't have to assume."

Bonding, Community/Relationship Building (BCRB) Responses received the code BCRB when they referred to forming or building relationships, either with other team members or with the group as a whole. Several team members observed that the remote meetings made it hard to bond, and that the activity helped address this problem. Anna expresses it here: "I think it was a great bonding activity learning more about everyone. I feel like it sped up the process of having chats especially since we are on Zoom and I am not sure when and how we would get a chance to get to know one another better." Silvia joined the group for the first time to share her identity wheel, and felt "practically instantly at home with the group; I felt that all the ice had been broken after sharing, and that I was part of the group and less of an outsider." The activity allowed Silvia to quickly feel bonded to the group. It also created an opportunity for conversations that might not have happened otherwise. Sharon noted that she has "had a few one on one conversations with individuals that most likely would not have occurred had the identity wheel activity not taken place." Sandy echoed the connections others found, sharing that she "found resonance with people that I wasn't expecting to find, which was nice." This resonance and connection helped build community within the group. Judy shared that as a result of the activity, she felt "more empathy for the group members after hearing their own backgrounds and vulnerabilities and struggles." Ellison said that one of the benefits of the activity is the team's "ability to connect with and support others in the group making the group more cohesive." The BCRB code was present in all but two of the group members' responses, as seen in Table 1. However, those two team members' responses both showed instances of the code IIK.

Authenticity and Reciprocity (AR) A total of 13 responses were coded with AR, including the excerpts previously shared to describe how the theme was developed. Each response met at least one of these criteria: explicitly mentioned authenticity, indicated wanting to be open and authentic about themselves to the group, indicated sharing details to model authenticity or vulnerability *to* others, or sharing details because authentic sharing was modeled *by* others. Sandy explicitly mentioned authenticity in two of her responses, including this excerpt: "I also think it gave me some ideas of how people see/position themselves so I can integrate that into how I see them can work to have more authentic interactions with them." Sharon also explicitly

mentioned authenticity, saying "I feel as though the senior leadership impart equitable practices, which were demonstrated by every person's authentic participation." Sharon shared that, though it was challenging, she gave herself "permission to speak and fully participate without regret." Judy echoed this desire to represent herself authentically to the group with this response: "I wanted to share enough to feel like I was being honest and not hiding anything important." For Bailey, their connection to other group members impacted their understanding of authentic sharing. Bailey wondered "what some people would think when I got to certain descriptions, especially those who know me well. Like, would [they] wonder why I was holding back?" Several people were encouraged by other SIW presentations to share more details about themselves, as seen in Ellison's response: "I did return to my wheel after seeing others' work and felt more comfortable adding to it at that point." In response to a different question, Ellison also noted that "Because everyone was participating there is some comfort in the reciprocity." The AR responses signal that team members were influenced by a desire to be honest and authentic, either for themselves or as a responsibility to foster reciprocal sharing with the group.

Teamwork (TW) Seven team members specifically referenced how the activity might impact the research work the team will do for the grant, as seen in the 9 instances of TW. Three of the PIs talked about the grant work generally. Andrew referenced specific goals of the grant, noting that the team's experience with the SIW "will be helpful in thinking through our project work as we consider how to create lessons and ask teachers and ourselves to reflect on our identities relative to the topics in the lessons." Sandy referenced the grant work more generally, sharing that we "now have a fuller understanding of each other and how who we are might shape how we approach the work of the grant." Bailey referenced teamwork in response to two questions. One was more general: "I thought it was a good activity to do as a project team." In another response, Bailey shared, "I only added in the pronouns in at the end because I thought that it was important to share since we would be working together for the next 3 years." Three of the graduate students referenced teamwork interactions in their TW responses. Jeff shared that the SIW activity helped him "have a better sense of what should I be careful or attend to when I interact with other group members in general." Ellison explicitly mentioned her graduate student role in the group related to teamwork: "I also feel more comfortable sharing my ideas, needs, and concerns since I feel like I have an identity beyond 'graduate student' in the group." On a similar note, Judy shared "I feel emotionally safer in the group, so I feel like I can participate more and make mistakes and accept critiques easier." Her response goes on to mention how the SIW activity might support navigating difficult conversations: "Before the activity, I felt like there were some 'hot' moments where maybe people misunderstood someone or felt challenged. It seems like we will be able to deal with those more directly as a group now." Responses coded with TW talked about teamwork in reference to specific grant goals, working together as a team, and group interactions.

Conclusion

The activity with the SIWs supported the project team in getting to know one another and fostered bonding and building community. Every team member's response was coded with at least two of the Community Building codes. Though not explicitly elicited with the survey questions, there were 9 instances in responses that referenced working together as a project team, as seen in the instances of teamwork. Every team member's response showed at least two instances of either bonding, community/relationship building or increased interpersonal knowledge, which suggests the activity *did* support the team in getting to know each other at a deeper level.

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The identity wheel allowed for the feel of more intimate discussions in the larger research group (over Zoom), as evidenced by discussions of disability/mental health, ethnicity, gender, and religion during the discussion portion of many presentations. Some team members described the activity as speeding up the getting to know you process. Anna shared "I feel like it sped up the process of having chats especially since we are on Zoom and I am not sure when and how we would get a chance to get to know one another better." This suggests that the SIW tool might accelerate community building in groups, particularly those that meet remotely and have fewer opportunities for casual, spontaneous conversations. It is also important to note that no one activity is sufficient for building community. Activities like this one can begin to facilitate community building, but community building requires sustained effort.

While this was implemented remotely, this tool was originally designed for in-person use. Research teams wanting to get to know one another and build community could possibly see similar results, but we do not claim that our experience is generalizable to other groups and settings. Rather, our goal is to contribute to ongoing work regarding researcher identity and positionality and how it can be explicitly shared. It is important to note that there may have been some status issues at play in our group. In fact, 4 of the responses mentioned power issues as a potential drawback or pressure that participants might experience, regardless of whether or not the respondent felt that pressure themselves. For example, all the graduate students have one of the PIs as their advisor. These power dynamics could have influenced the types of SIW sharing individuals engaged in, as well as the questions or comments they felt comfortable sharing. Group norms and feelings of safety will not be the same in every group. While our team emphasized several times that members need only share what they are comfortable sharing, some may have still felt pressure to share. Sharing identity stories requires vulnerability on the part of the sharer. Hence, careful emphasis needs to be put on establishing group norms. While many of our team describe that this experience *might* influence teamwork over the course of the project, we wonder what future studies might learn about how building community in research teams does or does not impact the work they do together.

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