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Planting the Seeds of Belonging: Restorative Justice and Therapeutic Horticulture with Justice-Involved Youths

Abstract

Restorative justice and therapeutic horticulture are strength-based community interventions demonstrating promise for rehabilitating youth offenders. However, the combined impact of these approaches has yet to be empirically assessed, and minimal research has used qualitative methods to represent the voices of marginalized youths in the justice system. The present mixed-methods study focused on a program using a dual implementation of restorative justice and therapeutic horticulture, which we hypothesized would promote a sense of belonging and foster resilience among youth. Survey measures showed that youths' sense of belonging in the program significantly predicted their perceived confidence/responsibility. Thematic analysis of participants' written reflections highlighted the beneficial effects of the program via fostering a sense of belongingness and cultivating a resilient future mindset.

Theoretical Framework and Objectives

The U.S. justice system generally responds to crime with punishment, aiming to teach through retribution. For justice-involved youths, this often means probation and incarceration. However, retribution does not decrease crime and has detrimental effects on a youth's life course. Incarceration increases the odds that youths will remain in the justice system, drop out of high school, and have poor health outcomes (April et al., 2023; The Annie E. Casey Foundation, 2022; Wiley et al., 2013). These negative outcomes are due, in part, to a self-fulfilling cycle wherein justice-involved youths are labeled "criminal," leading to rejection by prosocial peers, lower self-esteem, depression, and fewer opportunities for adaptive choices (Becker, 1963; Farrington & Murray, 2013; Wiley et al., 2013). These problems are exacerbated among youths of color, who are drastically overrepresented in justice involvement compared to white youths with similar criminal involvement and family factors (Abrams et al., 2021; Gase et al., 2016; Rovner, 2022).

To combat these problems, some jurisdictions use diversion, which can be informal (police warnings) or formal (rehabilitative programs like substance abuse interventions; Schlesinger, 2018). Diversion significantly reduces youth recidivism compared to traditional court processing (Cauffman et al., 2021; Wilson & Hoge, 2013). Despite many rehabilitative

programs focusing on education and vocational skills, however, there is a shortage of programs addressing youths' social needs (Elam, 2022).

One form of diversion that addresses such needs is restorative justice – a philosophy practiced for centuries by Indigenous cultures. Rather than crimes being framed as harm to the state, crimes are framed as harm to a person/relationship, oneself, and the wider community (Bergseth & Bouffard, 2007). Its applications aim to repair harm, support the person who committed the crime in not reoffending, and strengthen the community in which the crime occurred (Zehr et al., 2015). Restorative justice programs effectively reduce re-offenses and their severity (Kennedy et al., 2019; Latimer et al., 2005). In schools, it can improve teacher-student connections and preemptively address disciplinary inequities that can lead to the school-to-prison pipeline (Agudelo et al., 2021).

Restorative justice approaches may be effective, in part, because they recognize the fundamental need for belonging. Defined as feeling connected and accepted, belonging is a basic human need essential for functioning and motivation (Maslow, 1943; Walton & Brady, 2017). It impacts cognitive function, mental and physical health, self-control, and academic achievement (Baumeister et al., 2002; Heinrich & Gullone, 2006; Ryan & Deci, 2020). Because members of stigmatized groups, such as youths of color, experience more identity threat and belonging uncertainty than their white counterparts (Froehlich et al., 2023; Walton & Cohen, 2011), it is essential to focus intervention efforts on these populations (e.g., Walton et al., 2021).

Another rehabilitative intervention that emphasizes connection, healing, and personal growth is therapeutic horticulture, in which participants spend time working in a garden setting. In detention facilities, it provides vocational and social training and improves behavior, communication, collaboration, self-esteem, perceived competence, well-being, and sense of belonging (MacCready, 2014; Michaels, 2013; Sandel, 2004; Twill et al., 2011). Despite the promising potential of therapeutic horticulture and the importance of early intervention, most prior research on its use in detention facilities has concentrated on adult populations.

Although there are no empirical studies on the combined impact of restorative justice and therapeutic horticulture in a juvenile justice context, both approaches emphasize community connection and thus may jointly enhance youths' sense of belonging and community. When combined, these approaches may be especially effective: therapeutic horticulture provides vocational training and improves physical health, while restorative justice offers youths a chance to learn from their actions and make amends. The present study aimed to explore the relationship between justice-involved youths' sense of belonging and their motivation and rehabilitation in a program combining restorative justice and therapeutic horticulture.

We adopted a mixed-methods approach combining (a) quantitative assessments of program youths' belonging and endorsement of restorative justice values with (b) open-ended reflections of youths' experiences in the dual program. The qualitative component was included to represent marginalized youths' perspectives and determine if their most salient experiences resonated with the constructs deemed important by the research community. This mixed-methods approach allowed us to contextualize the quantitative findings, reveal essential program

elements, and bring to light some elements not previously theorized (McCrudden et al., 2019). We hypothesized that youths' sense of belonging would predict their reported efficacy and optimism for the future, as well as their endorsement of restorative justice values. Moreover, we anticipated that belonging, restorative justice endorsement, and self-efficacy for the future would emerge as central themes in the qualitative analysis.

Methods

Participants and Procedure

Following approval from the authors' Institutional Review Board, anonymized data were provided by the Hands of Wonder Garden Program at the Multnomah County Department of Community Justice. Participants were justice-involved youths (primarily Black and Latino, ages 14-18) who engaged in a six-week restorative justice and therapeutic horticulture program. Data were available from 99 youths who completed survey measures and 65 youths who completed narrative reflections during program activities.

Measures

Quantitative Questionnaire

The quantitative data came from a 20-item survey, which included questions relating to belonging, future orientation, and endorsement of restorative justice values. An exploratory factor analysis identified two distinct factors (see Table 1). Factor 1 included six items focusing primarily on *belonging* (52% variance explained), including feeling connected to others and positive evaluations of community ($\alpha = .83$; see Table 1). Factor 2 included six items focusing on *restorative justice* (e.g., responsibility for one's actions) and *competence regarding the future* (e.g., employment and life goals; 31% variance explained, $\alpha = .89$; see Table 1).

Qualitative Daily Reflections

At the end of each day in the program, participants were asked to respond to eight open-ended questions about their experience that day (e.g., what they learned or will remember, how they feel about themselves). Because of inconsistencies in the administration and completion of daily reflections, we included only the most recent available reflection for each participant ($n = 65$).

Results and Discussion

Quantitative Results

The first hypothesis was that youths' sense of belonging ($M = 3.12$, $SD = 0.54$) would predict their confidence/responsibility ($M = 3.35$, $SD = 0.55$). Indeed, participants' sense of belonging in the program was strongly positively correlated with their feelings of confidence/responsibility, $r(97) = .67$, $p < .001$.

Qualitative Results

Thematic analysis (Braun & Clarke, 2006) was used to extract salient patterns from youths' reflections. The approach to coding was both deductive and inductive, yielding a final coding scheme of 46 codes, from which six major themes were extracted (see Table 2).

Theme 1: Youths experience emotional security and acceptance through connecting with peers and staff, which cultivates a sense of belonging. Youths emphasized supportive relationships with staff and peers, learning emotional skills, and feeling more secure in their self-worth and identity, even when facing rejection, hardships, and negative stereotyping. One youth reflected on "the relationship bonding, a sense of belonging...[I will remember] the feeling of being here: belonging. people understand you. forever my garden family." This support is arguably crucial because youths with a reliable mentor are more likely to desist from crime (Weinrath et al., 2016).

Theme 2: Youths experience a sense of belonging when they work together toward a shared goal. Crucially, youths described feeling a sense of community and belonging through cooperative work in the garden, helping each other, and engaging in prosocial, collective action. One youth wrote they felt a sense of wellness "When we were planting the stuff, all in a circle talking and doing something good for the community." This theme is consistent with research documenting enhanced social skills and sense of belonging as a result of participation in therapeutic horticulture programs at detention centers (Benham, 2014; Sandel, 2004). At the same time, it suggests a potential exception to the previous literature suggesting that association with other justice-involved peers is problematic (Forsyth et al., 2018). Perhaps the impact of peer association is more about context than justice experience per se.

Theme 3: Youths' well-being and motivation is improved by connecting with nature and learning about gardening. The enjoyment, mindfulness, motivation, and excitement that youths derived from engaging with the garden made up a substantial portion of participant responses. Youths connected their efforts with the transformation of the garden, writing about "Looking at the progress the plants have made and how taking care of them helps them grow." They also reflected on learning new transferable skills that could be used to gain employment.

Theme 4: Youths engage with restorative justice concepts and express increased confidence and future-oriented motivation. Learning about restorative justice provided youths with a newfound optimism about the possibility of change. Importantly, this mirrors the confidence/responsibility factor in the quantitative analysis. Not only did youths report increased self-esteem and inspiration, but they also reflected on their past actions and felt motivated to learn from them and change their behavior. In the words of one participant: "...it's not too late to change your ways and to not be scared that what you did. There's always a way to fix it."

Theme 5: Youths derive a sense of achievement and motivation from their active engagement and productivity, finding fulfillment in their accomplishments. Consistent with research on adult prison therapeutic horticulture programs (Benham, 2014), gaining new skills and completing tasks in the garden seemed to promote a sense of autonomy, competence, and intrinsic motivation (Ryan & Deci, 2020). Accomplishment of active hands-on work fostered a sense of productivity, empowerment, and self-esteem in youths. One youth reflected on their

internal drive, writing that “...The way I pushed myself motivated me today. Seeing myself doing more work is inspiring.”

Theme 6: Youths benefit from participation in the program, which elicits positive feelings and contributes to their sense of well-being. Many youths expressed satisfaction, gratitude, and enjoyment from their involvement in the program, expressing that they were grateful for the program as a positive influence in their lives. One youth wrote, “[I felt a sense of wellness] to Day and Last week and everytime we go.”

Conclusions and Significance

Given that justice involvement has detrimental impacts on health and life trajectories, it is imperative to implement new strategies and interventions early on, targeting youths who are most at risk. As strength-based, community-oriented interventions, therapeutic horticulture and restorative justice demonstrate substantial promise to promote many of the protective factors against youth criminality (e.g., belonging, motivation, self-efficacy, mental health, community support). While restorative justice and therapeutic horticulture interventions have each been examined in the context of juvenile justice, they have not been empirically studied in combination.

The results of the present study showed that youths’ sense of belonging in a restorative justice therapeutic horticulture program was strongly correlated with their sense of confidence/responsibility. This finding is consistent with previous research showing belongingness to be a predictor of academic and career self-efficacy and achievement (Datu & Yuen, 2020; Maurizi et al., 2013). Moreover, both belonging and confidence/responsibility emerged as central themes in the qualitative analysis. Taken together, these findings underscore the importance of belonging in promoting positive attitudes and behaviors in justice-involved youths. Including a qualitative component was crucial for this study as it elaborated on the quantitative data, addressed the therapeutic horticulture component not present in the survey items, and amplified the voices of justice-involved youths.

In broader perspective, the findings of the present study reflect some of the goals of both therapeutic horticulture and restorative justice interventions, namely, to improve community, inspire personal change, and bolster youths’ chances of staying out of the justice system as they enter young adulthood (Sandel, 2004; Zehr et al., 2015). As underscored by the theme of the 2025 annual meeting, the historic and present wrongs and inequalities in the educational and justice systems call for renewed efforts to repair harms and strengthen our communities.

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Tables

Table 1. Exploratory factor analysis of survey items.

Item	Factor	
	Belonging	Confidence/ Responsibility
I am actively connected to my community.	0.830	
I think I am an important part of my community.	0.712	
I am involved in activities that benefit me, my community, and/or my family.	0.627	

If I needed an adult, I am skilled at finding one who could help and support me.	0.606	
I have positive relationships with adults other than my parents	0.476	
I can have a positive impact on my community.	0.415	
I see myself being able to achieve whatever I set my mind to.		0.949
I feel confident I have the skills to effectively interview for a job.		0.904
I have a responsibility to make things right when I cause harm to others.		0.729
I look forward to my future.		0.588
I feel confident talking about the skills I have that relate to applying for a job.		0.586
I believe that others are impacted by my choices		0.536

Notes. Factor eigenvalues > 1. Factor loadings for each item were included because they were greater than .400 and thus considered substantial.

Table 2. Code frequencies grouped by themes.

Code	Count
Theme 1. Youths experience emotional security and acceptance through connecting with peers and staff, cultivating a sense of belonging.	
Bonding with group	14
Connecting with staff	12
Feeling safe to express authentic identity	6
Positive feelings from connection	6
Feeling motivated by staff	9
Feeling supported by staff	9
Making new connections	5
Family connection	5
Being in restorative justice circle discussion	8
Learning coping/interpersonal skills	7
Theme 2. Youths experience a sense of belonging when they work together toward a shared goal.	
Teamwork in the garden	12
Coming together as a community	7
Helping others	15
Receiving help	19
Theme 3. Youths' well-being and motivation is improved by connecting with nature and learning about gardening.	
Motivated/inspired by being outside/gardening	8
Enjoyment of garden activities	46
Enjoyment of being outside	13
Mindfulness and feeling calm in nature	7
Rooftop garden/Field trip	10
Helping the garden	7
Seeing progress in the garden over time	5
Gaining new knowledge/fun facts about nature	6
Learning about eating healthy	8
Learning new garden/tool skills	20
Learning about gardening	7
Theme 4. Youths engage with restorative justice concepts and express increased confidence	

and future-oriented motivation.

Feeling self-esteem and confidence	7
Motivated/inspired about the future	6
Motivated/inspired to change behavior and move on from the past	9
Inspired by learning about restorative justice	6

Theme 5. Youths derive a sense of achievement and motivation from their active engagement and productivity, finding fulfillment in their accomplishments.

Enjoyment of working actively and being hands-on	9
Accomplishment at completing the program	7
Accomplishment at working hard	13
Accomplishment of overcoming/persistence	7
Accomplishment of completing garden activity	9
General sense of accomplishment	7
Motivated/inspired by working and being productive	8

Theme 6. Youths benefit from participation in the program, which elicits positive feelings and contributes to their sense of well-being.

Inspired by a motivational video shown during discussion	16
Enjoyment of participation in the program	13
Experiencing positive feelings	21
Novel experience	10
Financial motivation/compensation	6
General positive response	32

Additional codes.

No response	9
Negative response	13
Neutral response	10
Other	8

Note: Coding was based on the most recent daily reflection for 65 participating youths.