

# GRIN GRANT PROGRAM EVALUATION: FINAL REPORT

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Group

BUILDING RECOVERY ECOSYSTEMS



## EXECUTIVE SUMMARY

Grin Grant Inc., established in 2021, is a unique dental restoration and recovery program for individuals with substance use disorders that incorporates peer support activities in addition to dental restoration care. Grin Grant is comprised of three main components including dental restoration, cognitive behavioral support through A.P.P.E.A.R. group meetings, and career and life skills development through workplace mentoring. Altogether, the program provides holistic social and dental support to individuals in recovery. This report provides results from a comprehensive evaluation of Grin Grant occurring between April 2022 and January 2025.

*Quantitative Data Collected:* Surveys were delivered at program intake and 3-months, 6-months, 1-year, and 1.5-years post-restoration. These surveys measured a variety of indicators including recovery capital, general anxiety and depression, self-esteem, social and dental anxiety, employment and income, housing status, and substance use. Additionally, a survey was delivered monthly to A.P.P.E.A.R. group participants to determine group therapeutic alliance.

*Qualitative Data Collected:* Qualitative data was collected in the dental impact surveys and the A.P.P.E.A.R. group surveys. Specifically, participants were asked open-ended questions about their engagement in the recovery community, how their dental restoration had impacted their recovery and relationships, and how the A.P.P.E.A.R. program had helped them.

## KEY FINDINGS

**BASELINE IMPACT:** Clients experienced significant oral health challenges before their restoration. **Most participants experienced impacts related to employment, confidence, physical discomfort and pain, and negative social interactions.** Additionally, participants reported high levels of dental anxiety at intake, with approximately 38% of participants meeting the criteria for high levels of dental anxiety at intake.

**RECOVERY AND RELATIONSHIPS:** Qualitative analysis of data shows that **dental restoration has positive impacts on participants' recovery and personal relationships by increasing self-confidence and self-esteem.** Participants noted increased abilities for public speaking and pursuing better job opportunities. Additionally, when asked how their dental restoration impacted family and personal relationships, participants indicated improved relationships with children, a greater willingness to engage in family activities, and being more likely to take pictures and smile in them. Participants also reported that they were more engaged in their recovery communities overall.

**IMPACT OF A.P.P.E.A.R.:** An analysis of the A.P.P.E.A.R. group meetings revealed that **the program is valuable to clients as they go through the dental restoration process.** Individuals share the need for support from their peers as they go through the smile restoration process, and they find value in the fellowship A.P.P.E.A.R. provides.

**EFFECTS OF RESTORATION:** A robust analysis shows that **dental restoration itself is associated with significant improvements to general anxiety, social anxiety, and dental anxiety,** even when controlling for additional characteristics.

## INTRODUCTION

Substance use disorders (SUDs) are a prevalent public health issue with the latest estimates suggesting that over 48 million Americans ages 12 and older met the criteria for a SUD in 2023.<sup>1</sup> SUD has far reaching impacts on individuals mental and physical health<sup>2,3</sup>, family and social relationships<sup>4</sup>, and economic productivity.<sup>5</sup> Often, substance use is associated with significant oral health problems. In a systematic review of 38 studies examining the oral health problems of people who use drugs, Baghaie and colleagues found that people who use drugs have elevated rates of oral health problems like decayed and missing teeth and periodontitis.<sup>6</sup> Despite the high prevalence of oral health issues for those with SUDs, many SUD treatment programs do not include oral healthcare as part of treatment plans.<sup>7,8</sup>

Little research has been done to examine the impact of oral care on improving SUD treatment outcomes. One study examined how comprehensive oral care in conjunction with SUD care affected treatment outcomes.<sup>9</sup> The study found that those who received oral health care had higher rates of treatment completion, increased length of stay, increased rates of employment, and abstinence. In a recent examination of oral and mental health research for those with SUDs, Vadrevu and co-authors called for additional research on the impact of oral and mental health on SUD treatment outcomes.<sup>7</sup>

Grin Grant, established in 2021, is a unique dental restoration program for individuals with SUDs in rural and non-rural Kentucky counties that incorporates peer support activities in addition to dental restoration care.<sup>10</sup> Grin Grant is comprised of three main components including dental restoration, cognitive behavioral support through A.P.P.E.A.R. group meetings, and career and life skills development through workplace mentoring. The A.P.P.E.A.R. program, which stands for Anticipation of the procedure, Patience during the process, Planning for discomfort, Expectations before and after, Actualization of self, and Re-socialization, is provided to participants pre- and post-restoration. Altogether, the program provides holistic social and dental support to individuals in their recovery. Eligibility for Grin Grant includes having severe oral damage including missing and/or decayed teeth and having at least one year in recovery.

In this report, we provide results from a comprehensive program evaluation conducted between April 27, 2022, and January 1, 2025. Specifically, we examine the types of individuals served by Grin Grant, baseline dental impacts and recovery indicators, and changes in key outcomes related to mental health, recovery capital, and self-esteem post-restoration.

## METHODS

To examine the impact of dental restoration, the Fletcher Group partnered with Grin Grant to conduct a comprehensive program evaluation. As a significant proportion of Grin Grant participants are from rural counties in Kentucky, this program represents a needed intervention for rural individuals with SUD. The program evaluation consisted of repeated surveys of Grin Grant program participants. Data collection to support the evaluation occurred between April 2022 and January 2025.

## SURVEYS

To assess the impact of dental restoration, a series of five surveys were delivered to Grin Grant program participants. Surveys were delivered at program intake and 3-months, 6-months, 1-year, and 1.5-years post-restoration. Surveys were developed by the Fletcher Group research and evaluation team in collaboration with Grin Grant program administrators. All surveys were delivered via email invitations from the program evaluation team to program participants and were voluntary. To assess the impact of the A.P.P.E.A.R. program, an additional survey was developed and administered monthly.

The dental restoration surveys were designed to measure a variety of Grin Grant program impact indicators including recovery capital, general anxiety and depression, self-esteem, social and dental anxiety, employment and income, housing status, and substance use. The following validated instruments were used:

**Recovery Capital:** The Brief Assessment of Recovery Capital (BARC-10) was used to measure recovery capital.<sup>11</sup> The BARC-10 scale is described as a “strength-based measure that is completed via self-report to assess the level of broader personal, social, physical, and professional resources in an individual’s environment that are used to initiate and sustain recovery”. BARC-10 can range from 10 to 60, with a cutoff score of 47 indicating those with scores above 47 are more likely to be stable in their recovery.

**General Anxiety and Depression:** To assess anxiety and depression, the Patient Health Questionnaire (PHQ-4) was used.<sup>12</sup> The PHQ-4 includes two screening questions to assess anxiety and two screening questions to assess depression. Scores can range from 0 to 6 with scores above 3 indicating higher than normal anxiety/depression.

**Self-Esteem:** The Rosenberg Self-Esteem (RSE) scale was used to measure self-esteem; this 10-item scale measures global self-worth by measuring positive and negative feelings about one’s self.<sup>13</sup> Scores can range from 10 to 40, with higher scores indicating higher levels of self-esteem.

**Social Anxiety:** The Brief Fear of Negative Evaluation (BFNE) scale was used to measure social anxiety.<sup>14,15</sup> Scores can range from 8-40 with higher scores indicating individuals are more likely to have indications of a social anxiety disorder.

**Dental Anxiety:** The Modified Dental Anxiety scale was used to measure anxiety regarding dental visits and procedures.<sup>16</sup> Specifically, the scale examines anxiety level for dental treatment tomorrow, sitting in the waiting room, having a tooth drilled, having teeth scaled and polished, and having anesthetic dental injections. Scores range from 5 to 25, with scores above 19 indicating high levels of dental anxiety.

**Therapeutic Alliance:** Therapeutic alliance is a construct representing an individuals’ perception of the strength of their relationship with other peers as well as mentors in a group setting. The construct measures alliance in terms of shared bonds, goals, and tasks. Therapeutic alliance is a key process measure often assessed with for mutual aid group settings, with higher alliance often significantly associated with better mental health and treatment outcomes.<sup>17,18</sup> To measure the alliance of individuals participating in the A.P.P.E.A.R. program, an adapted version of the validated 12-item Fletcher Recovery

Housing Alliance Measure (FRHAM-12) was employed.<sup>19</sup> FRHAM-12 scores can range from 12 to 60, with higher scores indicating more positive scores of alliance. Although studies are still ongoing looking at meaningful cutoff scores, scores of 47 or less are hypothesized to indicate that an individual is at risk of leaving the program.

**Engagement in the Recovery Community:** Participants were asked to rate their engagement in the recovery community on a 0 to 10 rating scale with 0 being “not at all engaged” and 10 being “very engaged”.

During the study period, 185 Grin Grant participants were invited to participate in the evaluation. Of the 185, 82 are still active in the program and 103 were no longer active in the program, yielding a 44% program retention rate. Of the 103 that dropped out of the program, 29 dropped out prior to their restoration and 74 dropped out after their restoration. As the goal of the study was to determine the impact of dental restoration itself, invitations to post-restoration surveys were still disseminated to those who had received their restoration and were no longer active in the Grin Grant program.

## ANALYSIS

Fixed effects regression models were used to determine the impact of dental restoration on key outcomes including recovery capital, mental health, and self-esteem. Fixed effects models were used for all outcomes to control for observed and unobserved time-invariant factors across participants, such as demographic factors. Hausman tests on all models indicated fixed effects estimators were appropriate rather than a random effects model.<sup>20</sup> Two variables were included in the fixed effects models to estimate the effect of dental restoration itself and to control for participants’ self-reported engagement in the recovery community. Specifically, the model included a dummy (0/1) variable where 0 indicated that the dental restoration had not yet occurred during that time point and 1 indicated that the dental restoration had occurred at that time point. Additionally, the model included a self-rated recovery engagement score from 0 to 10, with higher numbers indicating greater engagement in the recovery community.

Chi-squared tests were used to test for significant differences in the share of respondents who agreed that their teeth impacted various aspects of their life at intake, 3-months and 6-months post-restoration. Scores were compared for only those individuals that provided both intake, and 3- and 6-month post-restoration surveys. Changes in dental impacts at 1-year and 1.5-year post-restoration were not examined due to small sample size. All analyses were conducted using Stata SE 18.0.

## RESULTS

### SAMPLE DEMOGRAPHICS AND BASELINE

First, we examine the sample demographics and baseline values of outcome indicators. Table 1 provides an overview of the demographics of the program participant sample as well as baseline values for the psychosocial scales examining recovery capital, mental health, and self-esteem.

**Table 1.** Summary statistics of evaluation participants at program intake (N = 126).

Variable	N (%)
<i>Race/Ethnicity</i>	
Asian	2 (2)
African American/Black	10 (8)
White	113 (90)
Native American/Native Alaskan	1 (1)
Native Hawaiian/Pacific Islander	0 (0)
Hispanic/Latinx	0 (0)
Other	1 (1)
<i>Gender</i>	
Female	63 (50)
Male	60 (48)
Nonbinary	1 (1)
<i>Housing Status</i>	
Living in sober living	26 (21)
Rents a home	74 (59)
Owens a home	11 (9)
Other	15 (12)
<i>Referral Pathway</i>	
Referred by alumni	66 (52)
Referred by staff	9 (7)
Other	50 (40)
<i>Other Participant Factors</i>	
Criminal justice involvement	96 (76)
Has prior history of homelessness	14 (11)
Mental health diagnosis	101 (80)
Veteran	4 (3)
Finished high school	91 (72)
Lives in a Rural County	60 (48)
<i>Resources</i>	
Currently has dental insurance	60 (48)
Currently employed	113 (90)
Currently receiving government assistance	26 (21)
<i>Psychosocial (Mean)</i>	

Engagement with recovery community	8.29
Brief Assessment of Recovery Capital (BARC-10)	53.37
Anxiety	1.83
Depression	0.88
Brief Fear of Negative Evaluation (BFNE)	23.00
Rosenburg Self-Esteem Scale (RSE)	30.56
Modified Dental Anxiety Score (MDAS)	16.74

The majority of Grin Grant recipients that participated in the evaluation were white (90%) with a smaller share of participants were African American/Black (10%), Asian (2%), and Native American/Native Alaskan (1%). Approximately half of the participants were male (48%), half were female (50%), and a small share identified as nonbinary (1%).

At intake, most participants indicated they rented a home (59%). Less than a quarter indicated they were living in sober living (21%) and few indicated they owned the home they were living in (9%).

Most program participants have a history of criminal justice involvement (76%) and a mental health diagnosis (80%). Only 11% of participants indicated they had a history of homelessness. Few program participants were veterans (3%). At intake, 48% of participants indicated they had dental insurance and most (90%) reported being employed. Almost half (48%) of the participants indicated they lived in a HRSA designated rural county in Kentucky.

Approximately a quarter reported receiving government assistance (21%). Of those receiving government assistance, 12% reported receiving Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI), respectively, 4% reported receiving Temporary Assistance for Needy Families (TANF), and 54% reported receiving assistance from the Supplemental Nutrition Assistance Program (SNAP).

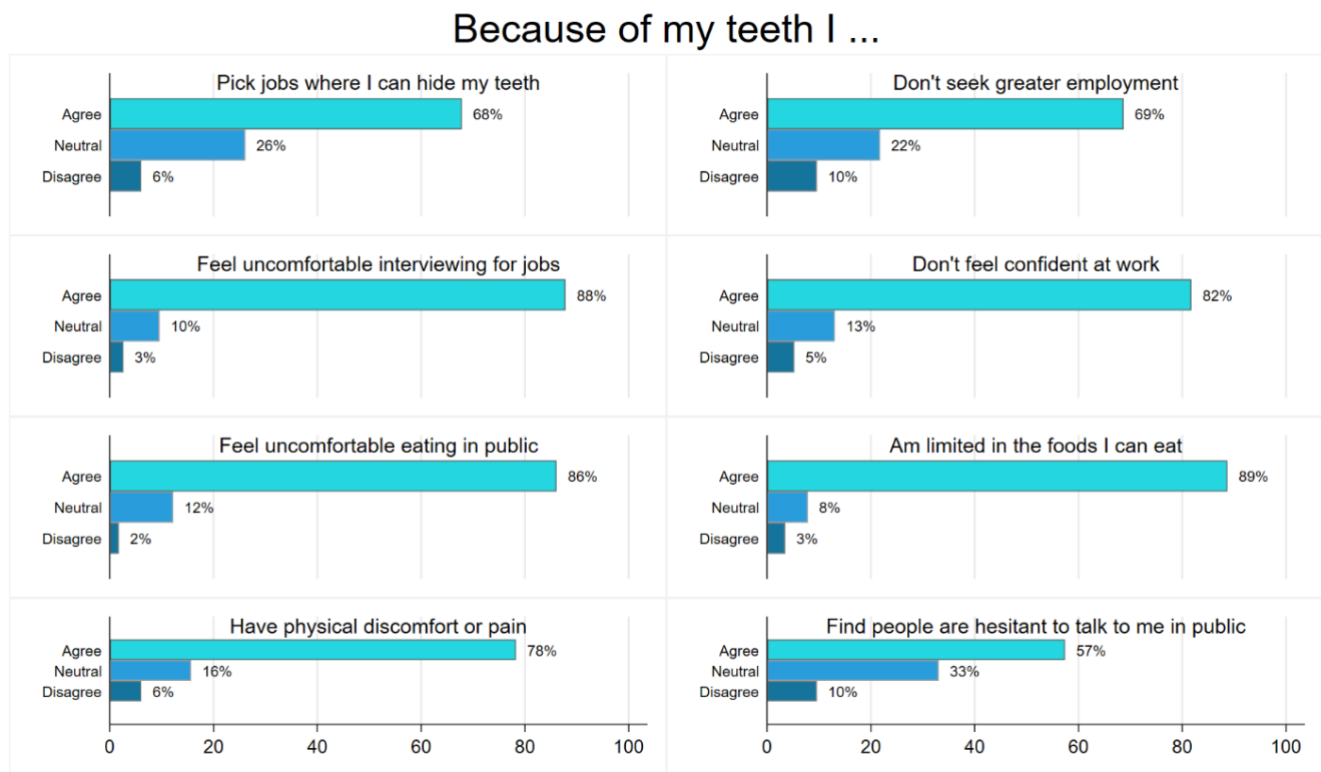
At intake, program participants rated their engagement with the recovery community on a scale of 0 to 10, with 10 being very engaged, at an average of 8. Similarly, program participants had an average BARC-10 score of 53, suggesting high recovery capital. 91% of the sample at intake had BARC-10 scores of 47 or higher, indicating stable recovery. These positive scores may reflect the impact of the eligibility criteria that program as participants must be in recovery for at least a year before applying to Grin Grant and be engaged with the recovery community.

Anxiety and depression scores were low on average at intake, with participants having an average score of 1.9 on the PHQ-4 anxiety related questions and 0.9 on the PHQ-4 depression related questions. Approximately 13% of the sample met the criteria for having higher than normal anxiety and 5% met the criteria for having higher than normal levels of depression.

At intake, participants had an average score of 23 on the BFNE scale, suggesting moderate levels of social anxiety. Additionally, participants had an average score of 31 on the RSE scale at intake, suggesting a relatively high level of self-esteem. Finally, participants had an average score of 17 on the MDAS scale, suggesting high levels of dental anxiety. Approximately 38% of participants met the criteria for having high levels of dental anxiety.

Next, we examine the employment, social, and physical impacts of participants' oral damage at program intake. To assess the impact of their oral damage, participants were asked to rate how much they agreed or disagreed with various statements.

**Figure 1.** Impacts of oral damage experienced by Grin Grant participants (N = 115).



At intake, Grin Grant program participants report significant impacts on the eight assessed factors due to their oral damage. Almost all participants agreed that they feel uncomfortable interviewing for jobs due to their teeth (88%), don't feel confident at work due to their teeth (82%), feel uncomfortable eating in public due to their teeth (86%), and are limited in the foods they can eat (89%). The majority indicated they have physical discomfort or pain due to their teeth (78%). Additionally, 68% agree that they pick jobs where they can hide their teeth, 69% don't seek greater employment due to their teeth, and 57% find people are hesitant to talk to them in public due to their teeth.

## IMPACT OF DENTAL RESTORATION ON KEY OUTCOMES

As the examination of time trends does not account for all the observations in the data, nor control for important variances between subjects that may impact the effect of dental restoration, we examined the impact of dental restoration using fixed effects linear regressions. In our regression model, we control for both the effect of time but also the effect of engagement in the recovery community.

Table 2 shows the estimates resulting from fixed effects linear regressions on key outcomes, including monthly income. As our panel data was highly unbalanced (not all participants having data at all time points), robust standard errors are reported.



**Table 2.** Fixed effects estimation of oral restoration effects (recovery capital, dental anxiety, general anxiety, social anxiety, depression, self-esteem, income).

Explanatory Variable	Dependent Variable (Outcomes)						
	BARC-10	RSE	BFNE	MDAS	Anxiety	Depression	Log Income
	Coefficient (Robust Standard Error)						
Dental Restoration	0.498 (0.746)	1.411 (0.876)	-5.694*** (1.256)	-3.929*** (0.877)	-0.947*** (0.293)	-0.352 (0.302)	-0.024 (0.198)
Engagement in Recovery Community	0.605 (0.333)	0.335 (0.264)	-1.199* (0.499)	-0.432 (0.294)	-0.163 (0.097)	-0.120 (0.132)	0.035 (0.033)
Time	-0.133 (0.437)	0.224 (0.333)	-1.013* (0.391)	-0.458 (0.290)	0.070 (0.079)	0.025 (0.068)	0.135 (0.126)
Constant	48.96*** (2.661)	28.72*** (2.194)	32.469*** (4.196)	19.462*** (2.482)	2.984*** (0.812)	1.778 (1.085)	7.19 (0.277)
N (observations)	229	220	227	225	228	228	212
N (groups)	154	147	150	150	153	152	147

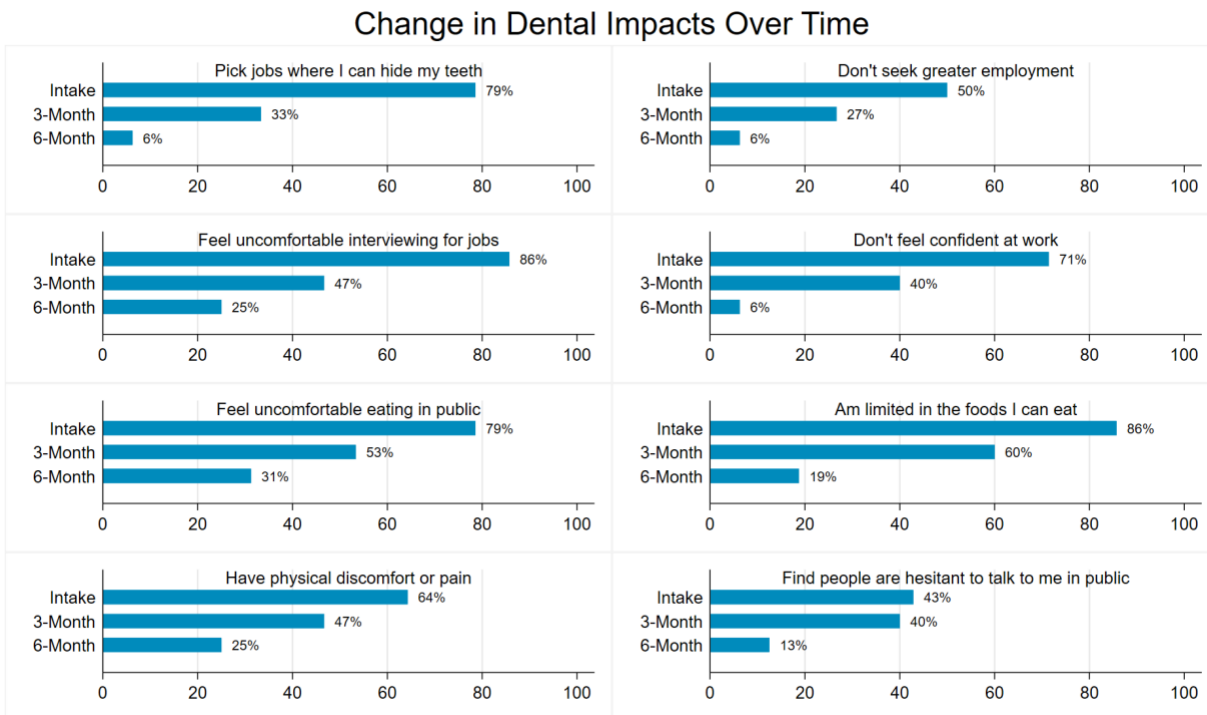
\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

When controlling time invariant factors, engagement in recovery community, and the effect of time, we found that dental restoration does not significantly impact recovery capital as measured by the BARC-10, nor self-esteem as measured by the RSE scale. Additionally, dental restoration does not significantly impact depression scores as measured by the PHQ-4 or monthly income.

However, we do find that dental restoration had positive impacts on anxiety including general anxiety, social anxiety, and dental anxiety. Specifically, we found that dental restoration was associated with a 5.7 point reduction in BFNE scores ( $t = -4.53$ ;  $p < 0.001$ ) all else constant. Additionally, we found that dental restoration was associated with a 3.9 point decrease in dental anxiety ( $t = -4.48$ ;  $p < 0.001$ ) as measured by MDAS scores all else constant. Finally, we found that dental restoration significantly reduced general anxiety scores as measured by the PHQ-4 with dental restoration being associated with a 0.9 point reduction in anxiety scores ( $t = -3.24$ ;  $p = 0.001$ ) all else constant.

Next, we examine the effect of dental restoration on dental impacts. Specifically, we examined the difference in the share of participants' ratings on various social related factors and self-perception associated with their teeth, pre-restoration to post restoration and follow-up. We report only those who provided both intake and 3-month and 6-month post-restoration data.

**Figure 3.** Percent of participants who agreed with dental impact statements at intake, 3-months post-restoration and 6-months post-restoration (N = 16).



When comparing intake and 3-month post-restoration impacts, the most significant effects were related to employment. Specifically, the share of participants that agreed they picked jobs where they can hide their teeth decreased by 58% 3-months post-restoration ( $\chi^2 = 5.99$ ;  $p = 0.014$ ). Additionally, we find that the share of participants that agreed they felt uncomfortable interviewing for jobs decreased by 45% 3-months post-restoration ( $\chi^2 = 4.89$ ;  $p = 0.027$ ).

The majority of the impacts of dental restoration took until 6-months post-restoration to be fully realized. Significant differences were found in the share that agreed with 7 of the 8 statements between intake and 6-months post-restoration. Specifically, we find that the share that agreed they pick jobs where they can hide their teeth decreased by 92% ( $\chi^2 = 16.27$ ;  $p < 0.001$ ), the share that agreed they don't seek greater employment because of their teeth decreased by 88% ( $\chi^2 = 7.31$ ;  $p = 0.007$ ), and that the share that felt uncomfortable interviewing for jobs because of their teeth decreased by 71% ( $\chi^2 = 11.06$ ;  $p = 0.001$ ). Additionally, the share that agreed they didn't feel confident at work decreased by 92% ( $\chi^2 = 13.66$ ;  $p < 0.001$ ). The share that indicated they feel uncomfortable eating in public due to their teeth decreased by 61% ( $\chi^2 = 6.72$ ;  $p = 0.010$ ) and the share that agreed they were limited in the types of food they could eat decreased by 78% ( $\chi^2 = 13.39$ ;  $p < 0.001$ ). Finally, the share of participants who agreed they had physical discomfort and pain due to their teeth decreased by 61% ( $\chi^2 = 4.69$ ;  $p = 0.030$ ) between intake and 6-months post-intake.

## QUALITATIVE IMPACTS OF DENTAL RESTORATION

### IMPACT OF DENTAL RESTORATION ON RECOVERY

To assess the holistic impacts of dental restoration and assess contextual factors, participants were asked to write about how their smile has affected their recovery in each of the post-restoration surveys. A total of 106 write-in responses were analyzed to assess themes.

When speaking of how the restoration has impacted their recovery, numerous participants wrote about how their new smile has increased their self-confidence. One participant wrote, *“It's given me more confidence to be front and center”* and another wrote, *“It gave me more confidence to go after what I want”*. Others noted how their increased confidence has aided in family and social interactions with one participant writing, *“I feel more confident interacting with family members and other people.”* Other participants noted how their increased confidence has allowed them to help others, *“More confident and outgoing so I can now help others”* and *“I have a newfound confidence which has helped me branch out and take on service positions”*.

Participants also wrote about how their new smile has impacted their self-esteem and self-worth. One participant wrote that their new smile *“has given me self-confidence and a sense of self-worth”*. Participants also noted that their new confidence enabled them to confidently share their recovery story. One participant wrote that their new smile *“Gave me confidence to get up and give my lead and share my story, also allows me the courage to talk to the newcomer and share my experience of strength and hope”* and another wrote that their dental restoration had, *“Given me to confidence to share my personal recovery experience”*.

Participants also noted positive impacts related to public speaking. One participant noted, *“All of it has been positive. I have had to speak on recovery panels for seminar and it has allowed me to speak in public.”* Another participant wrote, *“I am confident in my speech and continue to share my experience of growth.”*

Impacts related to employment were also noted by participants. One participant wrote, *“I've gotten a pay raise and promoted at work”* and another noted, *“It has helped me get a better job and introduced me to more people”*. Another participant wrote, *“I have applied for more opportunities in my job, and my education, I have taken on more sponsees and I have gained more confidence in myself.”*

Other participants wrote about how the Grin Grant program as a whole, including the support offered through the A.P.P.E.A.R. program has helped them. One participant wrote, *“My teeth are great, and I appreciate them. But I've benefited so much more from the entire program.”*

Finally, participants wrote about how their dental restoration has impacted multiple areas of their life. One participant wrote,

*“Since the 1st day of my restoration I have applied for jobs I wanted but was afraid to apply for, applied for peer support classes to be more involved in my community. I have my confidence back; I can look at myself in the mirror and [feel] really seen. My emotional and physical self FINALLY match all the work I have done mentally. I am complete!”*

Another participant wrote about how the restoration has impacted their goals for the future, writing,

*“I have lots of confidence! I want to go after my GED and pass. As soon as I get my computer or laptop, I will start the studying process. I want to find a different kind of work. I want to try new things. I want to beat this social anxiety every time I am around people. My last job I worked by myself. I want to get to the point now where I’m comfortable around people and doing new things. I’ve been working on this through my recovery and my smile put the drive in me to go and get these things. I do deserve them! Thank you Grin Grant!”*

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## **IMPACT OF DENTAL RESTORATION ON RELATIONSHIPS**

Participants were also asked to write about how their smile has affected their family and personal relationships in each of the post-restoration surveys. A total of 102 write-in responses were analyzed to assess themes.

Participants wrote about how their dental restoration positively impacted their children and their relationship with their children. One participant wrote, *“My daughters are proud to be seen with me”* and another wrote, *“My daughter is so happy I smile now”*. Another participant wrote, *“My kids are not embarrassed of me and are proud of me”* and another participant noted, *“My daughters are proud to introduce me to their friends and take family pictures with me. This has done wonders for eliminating the guilt and shame I felt around my children. I am closer with my family.”* Finally, participants noted being able to engage in activities related to their children. One participant wrote, *“I have been able to meet My son’s teachers without hiding behind a mask”* and another noted, *“I am finally able to meet with my teenager’s faculty and staff without hiding behind a mask.”*

Participants also noted that they were more involved and comfortable with family. One participant wrote, *“I’m more involved in family gatherings wanting to go more places with my family and school functions now with my daughter”* and another wrote, *“I’m much closer. Can laugh with and engage with my family and friends. I’m not ashamed to be seen or noticed anymore.”* Another participant wrote, *“I’m not embarrassed anymore to smile at everyone and express my feelings and to go out in public with my family. Laughing out loud is nice and so contagious. I feel like my ability to smile and laugh has had a great positive impact on my loved ones.”* Finally, a participant wrote, *“I have a smile now my family is happy to take pictures with me and partake in family activities. I can talk to other parents.”*

Numerous participants also indicated that being able to take pictures with family was a large benefit of their new smile. One participant wrote, *“I just recently got married a few months ago and was happily able to smile in all my wedding pictures”* and another noted, *“It makes my wife happy that I will take pictures now and actually smile”*. Another participant wrote, *“Pictures with my son and grandkids are awesome now, that was something that bothered me before the restoration. I don’t see people shying away when I talk face to face anymore.”* Another participant wrote, *“I am not embarrassed to take pictures with them or feel I’m a letdown to them when out in public.”*



In Table 3 we provide a sample of quotes written by A.P.P.E.A.R. program participants.

**Table 3.** Quotes from A.P.P.E.A.R. program participants.

<i>A.P.P.E.A.R is a wonderful program that covers each aspect of the emotional process and physical process of restoration and it helps so much to connect with others and hear other stories about their restoration and it gives everybody strength.</i>
<i>APPEAR gives you a family in order to share and compare your experiences with in order to be able to better identify with issues or concerns you may have as well as helping to give you a fresher perspective on situations.</i>
<i>I continue to gain support and build healthy relationships. I'm starting to trust people and my fears are discussed and lessened. I know what to expect and am mentally prepared for the change in my life! I can ask questions and listen to people, I have others who CARE about the outcome and the process.</i>
<i>A.P.P.E.A.R. has given me a safe haven in which I can grow. I have found my since of trust and faith again within not only myself but others. appear has helped me to broaden my thinking and gain my worth back. Without A.P.P.E.A.R. I couldn't have done this.</i>
<i>Oh wow, I would have never done this alone. Just the fact that I was prepared was extremely helpful. All the fine folks at Grin Grant have bent over backward to make me feel safe and comfortable.</i>
<i>I can imagine what it would be like to have to go through this alone, feelings and emotions run high during this big transition in my life, and I don't think I could have tried to do this without the help of Grin Grant participants. I am super grateful for this today and every one of the people that are in it and the staff helps you not feel alone.</i>
<i>If I were going through this by myself, I'd be scared. Fear would take over. I wouldn't be able to use my voice to speak up and ask questions or voice any concerns I may have had. In this program I'm not alone. There are people like me! No laughing at me! I can be myself, even though I get nervous speaking, I always feel better afterwards. I learn tricks and helpful tips to help me through my journey. I learn about the process through others who have went through it.</i>
<i>Going through my smile restoration I have had many unexpected emotions any concerns or questions I know I can ask any or all of my peers in the A.P.P.E.A.R meeting or on our group chat. Every one of my grin grant peers have given me extremely positive reinforcement that I have needed. I am very proud and grateful to be a part of this program.</i>
<i>The APPEAR program has helped me a lot. The other that have went through the program prior to me are there to share their experience and what worked for them. The facilitators make sure that we know we are working and deserving. Whenever a new person joins, they are welcomed like family. Also, we go with each other to dentist appointments and support each other through the process.</i>

*The program has helped me prepare for events in the dental procedure/process that I never thought of. I genuinely felt prepared for the entire process. I was informed that I would have to learn how to eat and speak with the equipment in and I thought that I'd be able to just throw them in and go. I've learned new ways to handle anticipation and the "unknown" without getting overly worked up about things.*

*It allows you reflection and directive. A.P.P.E.A.R. allows me direct fellowshiping with people who have and may still yet come to experience what I have. Had I had done this alone I feel I would still be somewhat unsettled about the procedure and adjusting physically as well as mentally to my plates. A.P.P.E.A.R. allows communication with others to help lay uncertainties to rest and to help put my mind at ease.*

*I have people that have been where I am. People that have felt the struggle that I have been they in addiction and the recovery process. I feel like I have found my place.*

*My anxiety and fear have prevented me from fixing my smile in the past or giving up in the middle of the process. Through the support of all the Grin Grant members as well as their personal experiences I have worked through my fear and anxiety. I would not be where I am today with my dental restoration process without learning from my fellow members. We are a supportive Family and I'm grateful to be a part of it!*

*I knew more about what to expect before I had my restoration surgery. If I have any questions, I can always get an answer from somebody in our group immediately. I also feel more comfortable in general because I have an extremely supportive group that understand how I feel and what I have been through and what is still yet to come. It really does feel like one huge family. And there is always so much love and support!!*

## DISCUSSION

Dental restoration is an important recovery support service for many individuals seeking recovery from SUD that has yet to be fully researched and evaluated. In this report, results are provided from a comprehensive evaluation of Grin Grant's dental restoration program. Specifically, we examined the impact of dental restoration on recovery, mental health, and dental impacts. Additionally, we examined how the peer support programming provided in addition to the dental restoration impacted individuals going through the process.

Grin Grant program participants' dental health and appearance prior to restoration significantly impacted social functioning and personal self-confidence. The vast majority of participants noted impacts specifically related to employment, confidence, physical discomfort and pain, and negative social interactions. Additionally, participants reported high levels of dental anxiety at intake, with approximately 38% of participants meeting the criteria for high levels of dental anxiety at intake.

When examining the impact of dental restoration itself, dental restoration was associated with significant changes in general, social, and dental anxiety when controlling for individual characteristics and time effects. However, dental restoration itself did not have a significant impact on recovery capital, depression, or monthly income. The lack of treatment effect on recovery capital is likely due to the inclusion criteria of the program. Grin Grant only accepts individuals who have been in recovery for at least a year. As such, recovery capital at intake was high and appeared to be stable over time. Additionally, the majority of participants were employed at intake. As such, there were not large changes in employment rates that would influence changes in income levels.

Qualitative analysis of data regarding how dental restoration impacted participants' recovery and person relationships revealed impacts related to self confidence and self-esteem. Participants also noted an increased ability to speak in public and the ability to apply for better and different job opportunities. Additionally, when asked how their dental restoration impacted family and personal relationships, participants indicated improvements in relationships with children, greater willingness to engage in family activities, and being more likely to take pictures and smile in them. Participants also remarked that they were more engaged in their recovery communities and service due to their dental restoration.

Finally, an analysis of the A.P.P.E.A.R. program provides evidence of the program adding support and value to Grin Grant participants as they go through the restoration process. Analysis of qualitative data found common themes around the need for support from others who have gone through the process as well as the fellowship that exists within the program.

Taken together, these results indicate that Grin Grant is an effective program that provides a much-needed service to individuals in recovery. Additionally, the results highlight the importance of providing peer support programming in addition to dental restoration to support individuals as they go through the transformative process of dental restoration.



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