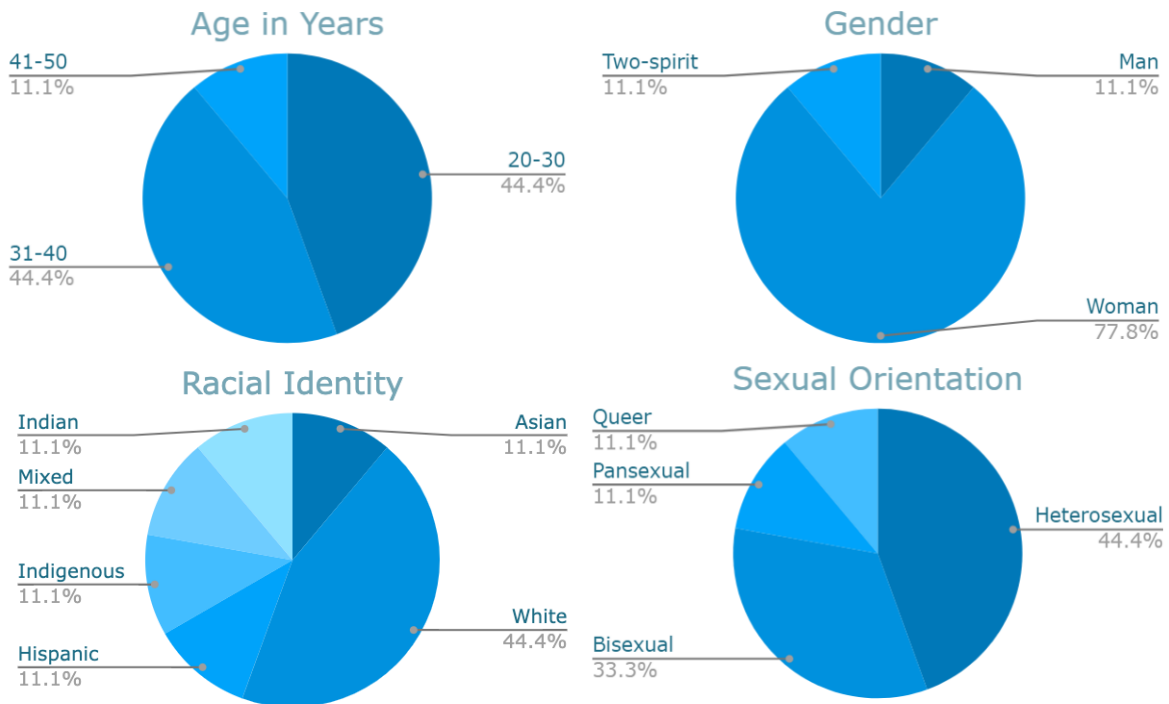


BPD Society of British Columbia: DBT Skills Group Outcome Assessment

Overview: We evaluated the efficacy of a 24-week, accessible, virtual Dialectical Behavior Therapy (DBT) skills group for adults with borderline personality disorder (BPD) living in the province of British Columbia, Canada. A total of ten adults who either: 1) self-identified with BPD; or 2) were diagnosed with BPD by a mental health professional enrolled in the skills group. All participants met the clinical cut-off for BPD on the MSI-BPD. Participants completed self-report surveys before starting the program, at the midpoint, and at the end of the skills group (pre-, mid-, and post-intervention). A full list of the surveys can be found in APPENDIX A.

Participant Characteristics:



Outcome Results: Given the small sample size ($N = 10$), traditional statistical tests (e.g., analysis of variance [ANOVA], multilevel modeling) would yield unreliable p-values and standard errors. We therefore calculated Hedges g' effect sizes to show how the group mean of each outcome changed during the skills training program.

Results:

- Overall, participants experienced gains in all outcomes assessed (other than number of medications).
- Participants used minimal emergency services shortly before and during the skills training program.
- **Large effects** (Hedges' $g \geq |0.80|$) were found between pre- and post-intervention for BPD symptoms, emotion regulation difficulties, depressive symptoms, impact of depressive symptoms, anxiety symptoms, impact of anxiety symptoms, suicidality, quality of life, perceived personal state, and perceived health.
- **Small effects** (Hedges' $g \geq |0.20|$) were found for reasons for living and number medical doctor visits.
- **Almost all** participants decreased at least one risk category on measures of depression (75%), anxiety (83%), and BPD symptoms (71%). Of the 5 participants that scored "at-risk" for suicide pre-intervention, 3 (60%) scored in the "minimal/low risk" range post-intervention. Also, 75% of participants reported more reasons for living, 50% reported increased quality of life, 75% reported an increase in perceived health, 83% reported an increase in perceived personal state, and 88% reported fewer difficulties in emotion regulation from pre- to post-intervention.

Figure 1. Group Mean Scores of Each Outcome Across the 24-Week DBT Skills Program

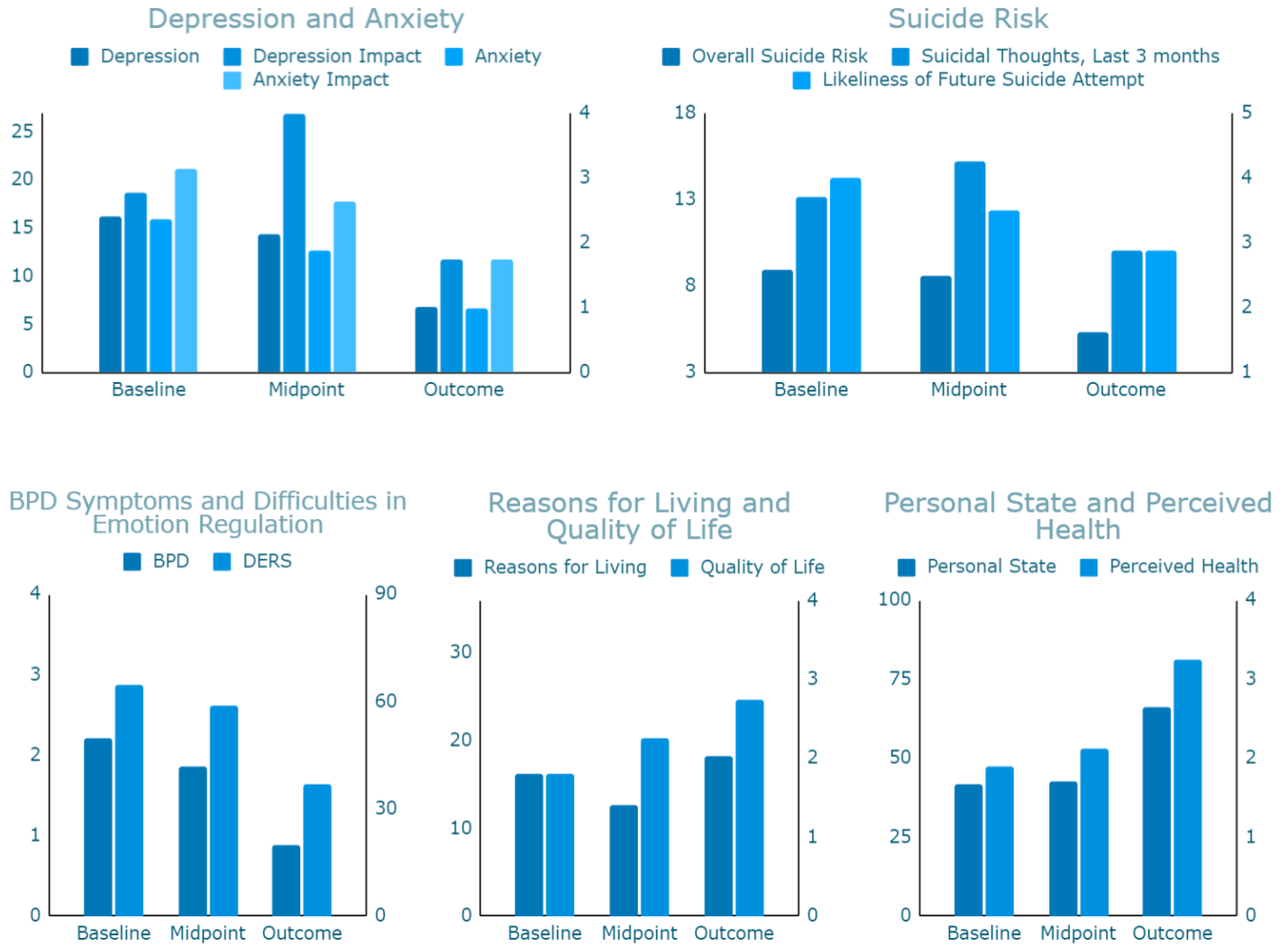
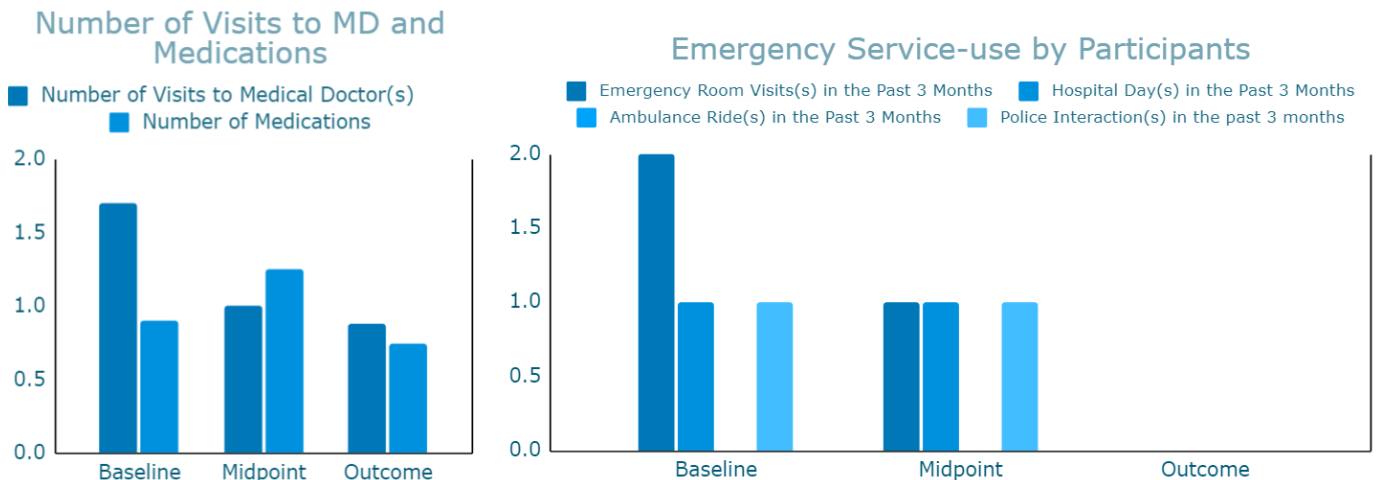
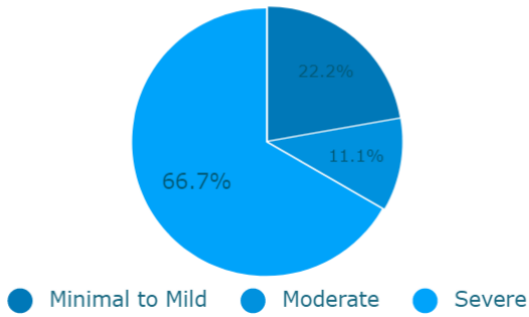


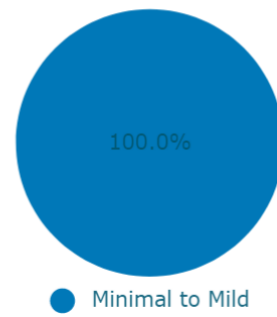
Figure 2. Number of Participants per Risk Category Before and After the 24-Week DBT Skills Program



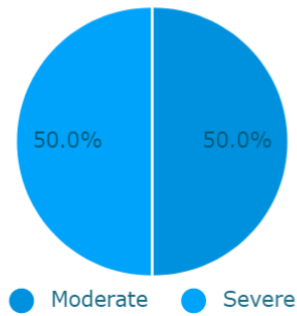
Depression at Baseline (n=9)



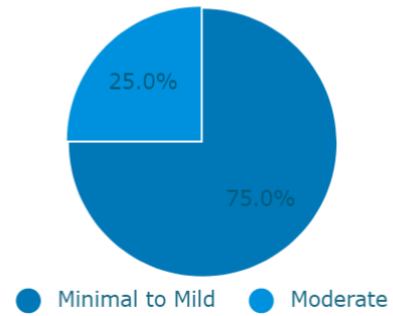
Depression at Outcome (n=8)



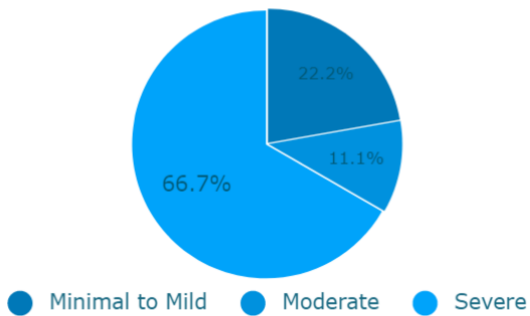
Anxiety at Baseline (n=8)



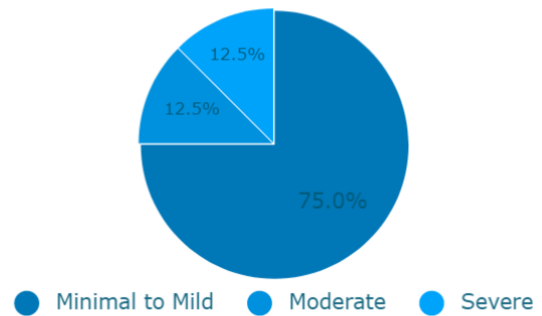
Anxiety at Outcome (n=8)



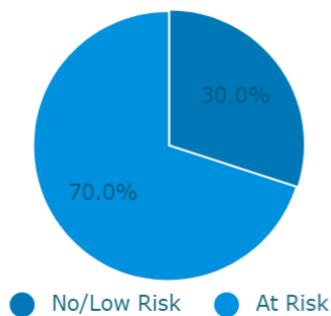
BPD Symptoms at Baseline (n=9)



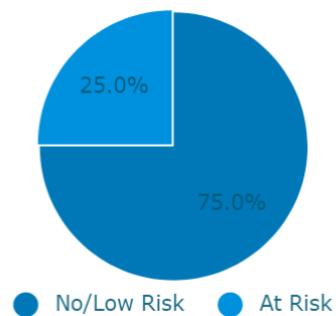
BPD Symptoms at Outcome (n=8)



Suicide Risk at Baseline (n=10)



Suicide Risk at Outcome (n=8)



Note. Risk categories were defined according to the instructions provided with each self-report questionnaire.

Table 1. Descriptive Statistics of Each Outcomes Pre-, Mid-, and Post-Intervention

	Min/Max of Scale	Pre-Intervention (n = 10)		Mid-Intervention (n = 8)		Post-Intervention (n = 8)	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
BPD Symptoms	0, 4	2.21	1.05	1.87	0.87	0.89	0.65
Emotion Regulation Difficulties	0, 90	64.78	11.83	58.88	14.64	36.75	9.56
Depressive Symptoms	0, 27	16.22	5.61	14.38	4.75	6.88	3.04
Impact of Depressive Symptoms	1, 4	2.78	0.83	3.99	0.93	1.75	0.46
Anxiety Symptoms	0, 21	15.88	4.26	12.63	5.68	6.63	3.50
Impact of Anxiety Symptoms	1, 4	3.13	0.64	2.63	0.92	1.75	0.46
Suicidality	3, 18	8.30	3.56	8.25	3.45	5.38	2.97
Reasons for Living	0, 36	16.20	9.60	12.75	7.46	18.25	8.40
Quality of Life	0, 4	1.80	0.79	2.25	0.46	2.75	0.71
Perceived Personal State	0, 100	41.56	23.01	42.71	17.71	66.33	17.57
Perceived Health	0, 4	1.90	0.74	2.13	0.84	3.25	0.89
Number of Visits to Medical Doctor(s)	0, NA	1.70	1.95	1.00	0.93	0.88	1.36
Number of Medications	0, NA	.90	1.10	1.25	1.28	0.75	0.89

Note. *M* = mean; *SD* = standard deviation.

Table 2. Percentage of Participants Accessing Emergency Services Pre-, Mid-, and Post-Intervention

	Pre-Intervention (n = 10)	Mid-Intervention (n = 8)	Post-Intervention (n = 8)
Emergency Room Visits(s) in the Past 3 Months (n, %)	2 (20%)	1 (25%)	0 (0%)
Hospital Day(s) in the Past 3 Months (n, %)	1 (10%)	1 (25%)	0 (0%)
Ambulance Ride(s) in the Past 3 Months (n, %)	0 (0%)	0 (0%)	0 (0%)
Police Interaction(s) in the past 3 months (n, %)	1 (10%)	1 (25%)	0 (0%)

Table 3. Hedges' *g* Effect Sizes for Each Outcome

	Pre- to Mid- Intervention	Mid- to Post- Intervention	Pre- to Post- Intervention
BPD Symptoms	-0.35	-1.28	-1.47
Emotion Regulation Difficulties	-0.45	-1.79	-2.57
Depressive Symptoms	-0.35	-1.88	-2.00
Impact of Depressive Symptoms	1.38	-3.01	-1.44
Anxiety Symptoms	-0.66	-1.27	-2.34
Impact of Anxiety Symptoms	-0.65	-1.21	-2.43
Suicidality	-.01	-.89	-.88
Reasons for Living	-0.40	0.69	0.23
Quality of Life	0.68	0.84	1.26
Perceived Personal State	0.06	1.34	1.19
Perceived Health	0.29	1.29	1.67
Number of Visits to Medical Doctor(s)	-.44	-.10	-.48
Number of Medications	.30	-.45	.15

Note. Small effect size = 0.2; medium effect size = 0.5; large effect size = 0.8.

Limitations and Conclusions: One important limitation of these results is that effect sizes estimates were calculated at the group-level and may therefore not apply to individual participants. For example, large effect sizes may result from large changes in a select few individuals, despite others showing no changes. Future evaluations could address this limitation by having a larger number of participants (e.g., 50) complete the DBT skills training program and then performing multilevel modeling that disaggregates between- and within-person changes. Despite this limitation, the current results show promising evidence that a virtual, 24-week DBT skills training program can lead to significant gains in clinically relevant outcomes.

Depression and **Depression Impact** were measured using the *Patient Health Questionnaire* (PHQ-9). This self-report measure includes nine items that measure the severity of depressive symptoms experienced in the last two weeks, with one additional item measuring the subjective impairment associated with these symptoms in daily life (Kroenke et al., 2001).

Anxiety and **Anxiety impact** were measured using the *General Anxiety Disorder* (GAD-7) scale. This self-report measure includes seven items that measure the severity of anxious symptoms experienced in the last two weeks, with one additional item measuring the subjective impairment associated with these symptoms in daily life (Spitzer et al., 2006).

Suicidality was scored using the *Suicide Behaviors Questionnaire-Revised* (SBQ-R), a four-item self-report measure. This questionnaire assesses four dimensions of suicide risk: History of suicide attempts, history of suicidal thoughts, disclosing suicidal intent, and likelihood of future suicide attempts (Osman et al., 2001).

BPD symptoms were measured using the *Short Version of the Borderline Symptom List* (BSL-23), a 23-item self-report measure that assesses the number and intensity of BPD symptoms in the last week (Bohus et al., 2009).

Difficulties in emotion regulation were measured using the *Brief Version of the Difficulties in Emotion Regulation Scale* (DERS-18), an 18-item self-report measure that assesses abilities related to understanding and managing unpleasant emotions (Victor & Klonsky, 2016).

Reasons for living were measured using the *Brief Reasons for Living Inventory* (BRFL), a self-report measure that assesses the importance of 12 different reasons to not attempt suicide (Ivanoff et al., 1994).

Quality of life was measured by a single item, where participants scored their overall quality of life from 1 (“Very Poor”) to 5 (“Very Good”).

Personal state was measured by a single item, where participants rated their overall state in the last week from 0 (“Absolutely down”) to 100 (“Excellent”).

Perceived health was measured by asking participants how satisfied they are with their health, ranging from 1 (“Very Dissatisfied”) to 5 (“Very Satisfied”).

- Bohus, M., Kleindienst, N., Limberger, M. F., Stieglitz, R. D., Domsalla, M., Chapman, A. L., Steil, R., Philipsen, A., & Wolf, M. (2009). The short version of the Borderline Symptom List (BSL-23): Development and initial data on psychometric properties. *Psychopathology, 42*(1), 32–39. <https://doi.org/10.1159/000173701>
- Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of General Internal Medicine, 16*(9), 606–613. <https://doi.org/10.1046/j.1525-1497.2001.016009606.x>
- Ivanoff, A., Jang, S.J., Smyth, N.J., & Linehan, M. M. (1994). Fewer reasons for staying alive when you are thinking of killing yourself: The brief reasons for living inventory. *Journal of Psychopathology and Behavioral Assessment, 16*, 1–13. <https://doi.org/10.1007/BF02229062>
- Osman, A., Bagge, C. L., Gutierrez, P. M., Konick, L. C., Kopper, B. A., & Barrios, F. X. (2001). The Suicidal Behaviors Questionnaire-Revised (SBQ-R): Validation with clinical and nonclinical samples. *Assessment, 8*(4), 443–454. <https://doi.org/10.1177/107319110100800409>
- Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of Internal Medicine, 166*(10), 1092–1097. <https://doi.org/10.1001/archinte.166.10.1092>
- Victor, S. E., & Klonsky, E. D. (2016). Validation of a brief version of the difficulties in emotion regulation scale (DERS-18) in five samples. *Journal of Psychopathology and Behavioral Assessment, 38*, 582-589. <https://doi.org/10.1007/s10862-016-9547-9>