BAB V
KESIMPULAN DAN SARAN PENELITIAN

5.1. Kesimpulan

Dalam memahami mengenai kualitas pemulihan sebuah lingkungan, perlu diketahui faktor apa saja, mengapa, dan bagaimana sebuah lingkungan dapat mempengaruhi tingkat pemulihan seseorang. Dalam hal ini, telah banyak teori-teori dan pendapat yang telah dikemukakan mengenai faktor lingkungan apa saja yang dapat memberikan efek restorasi bagi seseorang. Selain faktor lingkungan, terdapat juga faktor persepsi kita terhadap lingkungan yang juga turut mempengaruhi efek pemulihan lingkungan.

5.1.1. Teori Restoratif

Dari semua teori yang telah dikemukakan, ada beberapa pendekatan yang berbeda-beda mengenai nilai restorasi lingkungan terhadap manusia, namun semuanya saling berkaitan dan mendukung satu sama lain dalam mengemukakan bahwa kontak dengan alam memberi efek restorasi bagi fisik dan mental seseorang. Secara ringkas, berdasarkan teori-teori yang telah di kemukakan, beberapa persyaratan lingkungan yang memberi efek restorasi bagi seseorang antara lain :

- Lingkungan fisik yang natural
- Lingkungan tidak memiliki elemen yang mengganggu perhatian *(distraction*)

- Lingkungan fisik yang dapat mempengaruhi dan membawa seseorang untuk hanyut dan terbawa oleh suasana yang dibentuk (*extend*).
- Lingkungan harus informatif
- Lingkungan tidak boleh memberi kesan berbahaya
- Lingkungan tidak boleh memiliki unsur yang memberi kesan atau mengingatkan seseorang mengenai pekerjaan atau tugas sehari-hari.
- Lingkungan harus sesuai antara kesan yang diberikan terhadap apa yang dirasakan orang tersebut.
- Lingkungan bukan merupakan tempat yang dalam mengeksplorasi membutuhkan persiapan atau antisipasi situasi yang sulit.

5.1.2. Persepsi

Kualitas pemulihan sebuah lingkungan juga di pengaruhi oleh bagaimana seseorang memersepsi lingkungan tersebut. Manusia dapat memersepsi lingkungan dengan kelima inderanya, yaitu indera penglihatan, pendengaran, penciuman, perasa, dan pengecap. Kelima indera tersebut memiliki fungsi-fungsi penting yang independen, namun saling berpengaruh dalam membentuk persepsi secara keseluruhan. Namun dari kelima indera tersebut, dalam memersepsi lingkungan, penglihatan dan pendengaran memiliki peranan yang paling tinggi.

5.1.3. Pengujian HR-HRV

Penurunan kecepatan detak jantung (*heart rate*), diikuti dengan peningkatan variabilitas denyut jantung (*Heart Rate Variability*) merupakan

ciri dari terjadinya restorasi. Secara umum, setiap orang dapat mengalami restorasi terhadap stress secara alami, namun lingkungan dapat mempengaruhi kecepatan dan efektivitas restorasi tersebut.

Hasil analisa dari pengujian terhadap 3 sampel responden menunjukkan adanya penurunan kecepatan detak jantung rata-rata sebesar 11% (dari angka rata-rata 82 bpm ke 73 bpm), diikuti dengan peningkatan tingkat variabilitas denyut jantung rata-rata sebesar 8% (dari 50 ke 58%), yang menunjukkan adanya pemulihan tingkat stress yang terjadi sebesar 8%. Hasil tersebut menunjukkan efektivitas pemulihan lingkungan tersebut terhadap penurunan stres seesorang sebesar 8%.

Dari hasil analisis yang menunjukkan adanya penurunan stress seseorang ketika berada di Kawasan Urban Oasis di bandingkan degan Kawasan perkotaan melalui pembacaan HR dan HRV, berdasarkan hasil analisis tersebut dapat di ditegaskan beberapa hal antara lain :

- Pengukuran melalui HR dan HRV dapat digunakan sebagai media pengukuran tingkat stres seseorang
- *Virtual Reality* dapat digunakan sebagai alat dan media dalam pengujian tingkat pemulihan sebuah lingkungan (*restorative environment)*
- Kawasan Urban Oasis dapat menurunkan tingkat stress seseorang sehingga dapat tepat dan cocok untuk diterapkan sebagai *restorative environment.*

5.2. Saran

Penelitian ini masih merupakan langkah awal dalam pencarian rancangan Urban Oasis yang tepat bagi Kawasan Perkotaan beriklim tropis lembab dalam rangka penurunan tingkat stress. Penelitian ini hanya merumuskan bagaimana persyaratan rancangan Urban Oasis secara umum dengan jumlah responden yang sangat terbatas, sehingga masih diperlukan adanya penelitian secara mendetail dan mendalam terhadap masing-masing elemen pada Urban Oasis agar dapat diketahui efek, dampak, dan tingkat pemulihan yang terjadi pada masing-masing elemen terhadap mental dan psikologis seseorang; dan juga penelitian terhadap interpretasi elemen-elemen tersebut dalam rancangan sehingga dapat dirumuskan rancangan yang tepat dalam mewujudkan rancangan Urban Oasis pada perkotaan beriklim tropis lembab yang tepat.

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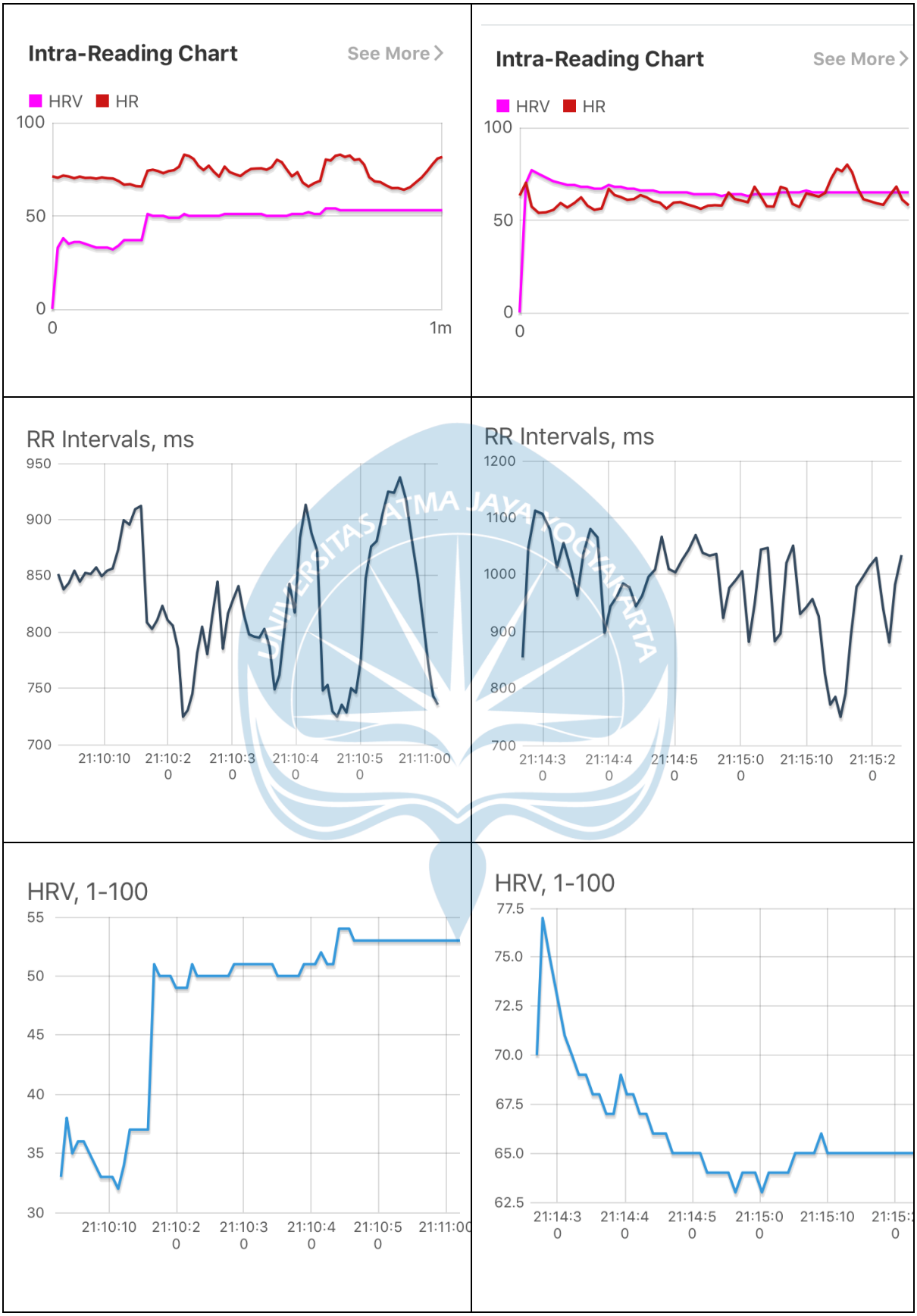
LAMPIRAN

Lampiran 1 Data hasil pengukuran responden 1

Pengukuran 1 (Kawasan Perkotaan)	Pengukuran 2 (Kawasan Urban Oasis)
Heart-rate 73	Heart-rate 62
Heartrate Variable 53	Heartrate Variable 65
HRV Time-Domain Results **Mean RR interval**: 822 ms **rMSSD**: 31.20 ms **ln(rMSSD)**: 3.44 ms **SDNN**: 57.31 ms **PNN50**: 8% **NN50**: 6 **7 Day HRV CV**: N/A	**HRV Time-Domain Results** **Mean RR interval**: 975 ms **rMSSD**: 67.71 ms **ln(rMSSD)**: 4.22 ms **SDNN**: 82.56 ms **PNN50**: 40% **NN50**: 24 **7 Day HRV CV**: N/A
HRV Frequency-Domain Results **Total Power**: 1,779.13 ms² **LF* (Low Frequency Power)**: 1,462.64 ms² **HF (High Frequency Power)**: 316.49 ms² **LF/HF ratio***: 4.62	**HRV Frequency-Domain Results** **Total Power**: 2,205.68 ms² **LF* (Low Frequency Power)**: 821.70 ms² **HF (High Frequency Power)**: 1,383.98 ms² **LF/HF ratio***: 0.59
Heart Rate Results **Minimum HR**: 64.00 bpm **Maximum HR**: 82.80 bpm **Average HR**: 72.97 bpm	**Heart Rate Results** **Minimum HR**: 53.94 bpm **Maximum HR**: 80.00 bpm **Average HR**: 61.54 bpm


Intra-Reading Chart
See More
HRV HR
100
50
0
0
1m
Intra-Reading Chart
See More
HRV HR
100
50
0
0
RR Intervals, ms
950
900
850
800
750
700
21:10:10
21:10:20
21:10:30
21:10:40
21:10:50
21:11:00
RR Intervals, ms
1200
1100
1000
900
800
700
21:14:30
21:14:40
21:14:50
21:15:00
21:15:10
21:15:20
HRV, 1-100
55
50
45
40
35
30
21:10:10
21:10:20
21:10:30
21:10:40
21:10:50
21:11:00
HRV, 1-100
77.5
75.0
72.5
70.0
67.5
65.0
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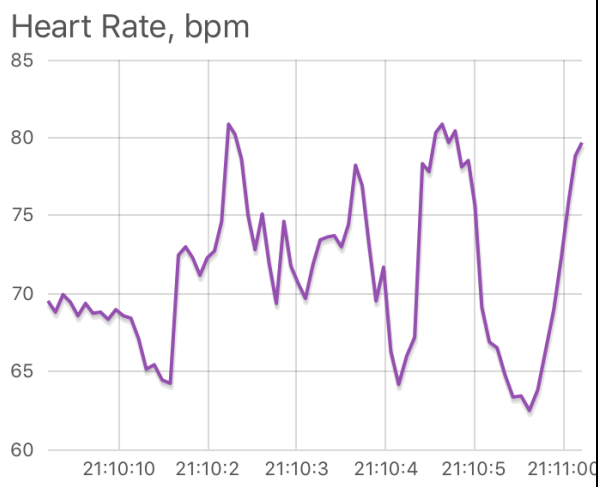
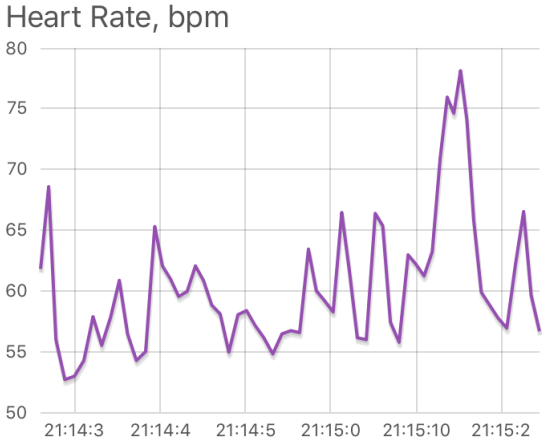
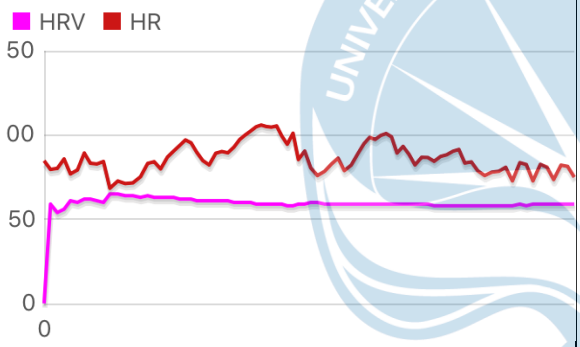
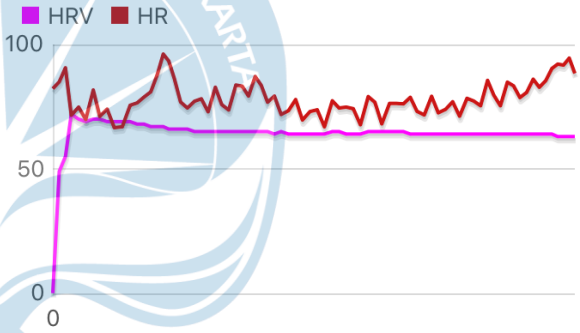
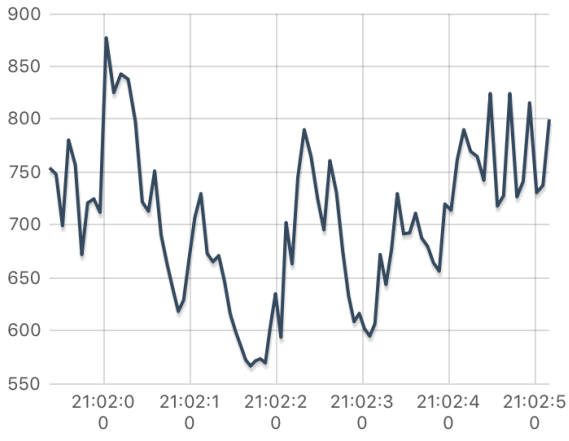
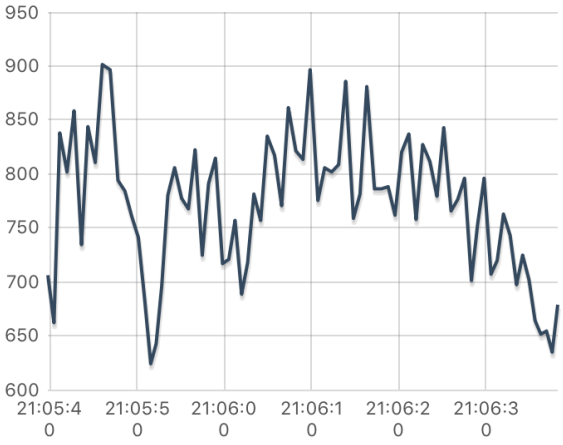
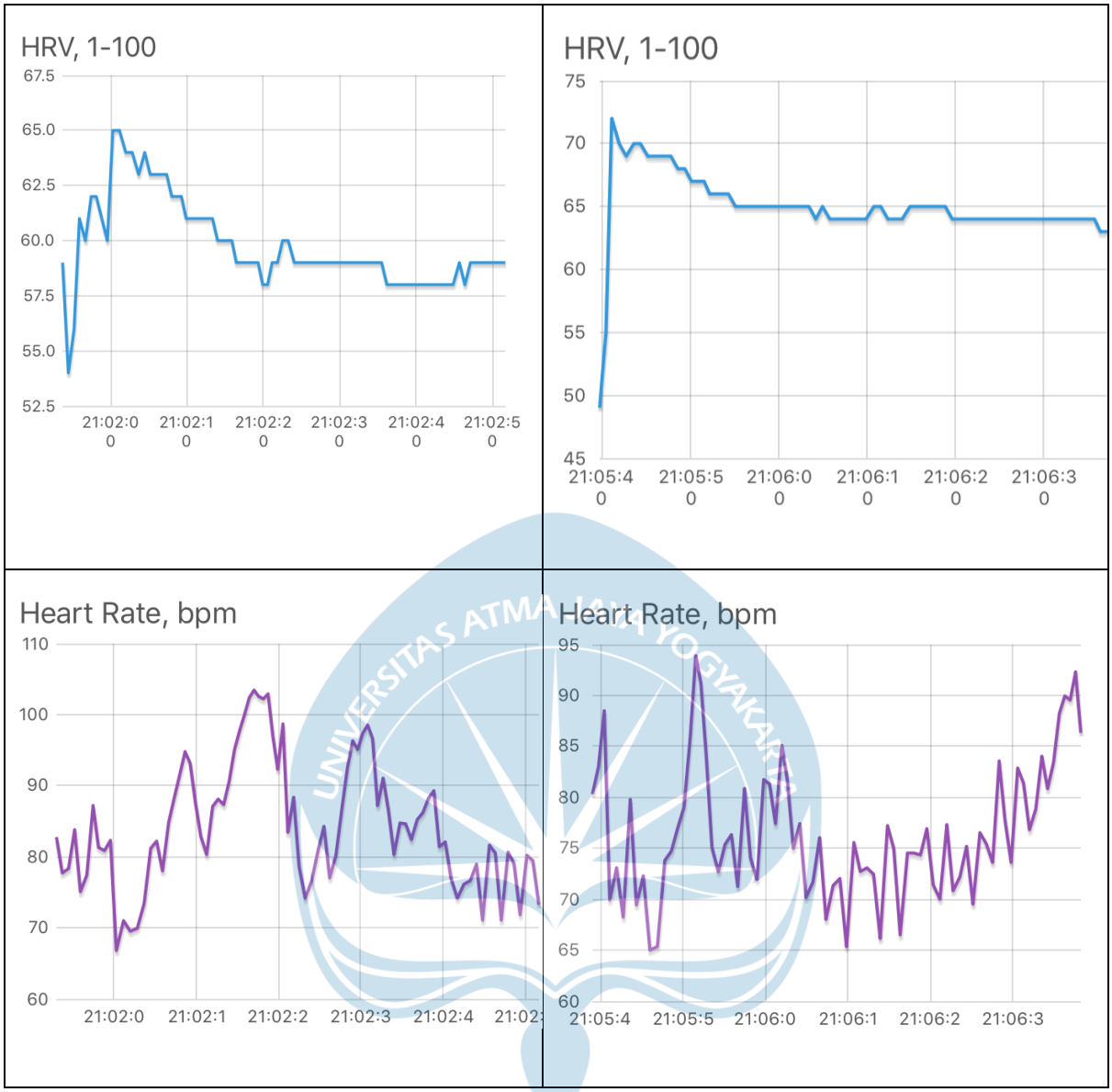
	

Lampiran 2 Data hasil pengukuran responden 2

Pengukuran 1 (Kawasan Perkotaan)	Pengukuran 2 (Kawasan Urban Oasis)
Heart-rate 86	Heart-rate 78
Heartrate Variable 59	Heartrate Variable 63
HRV Time-Domain Results **Mean RR interval**: 699 ms **rMSSD**: 47.44 ms **ln(rMSSD)**: 3.86 ms **SDNN**: 72.63 ms **PNN50**: 25% **NN50**: 21 **7 Day HRV CV**: N/A	**HRV Time-Domain Results** **Mean RR interval**: 769 ms **rMSSD**: 60.75 ms **ln(rMSSD)**: 4.11 ms **SDNN**: 64.75 ms **PNN50**: 42% **NN50**: 32 **7 Day HRV CV**: N/A

HRV Frequency-Domain Results **Total Power**: 3,697.46 ms² **LF* (Low Frequency Power)**: 3,332.50 ms² **HF (High Frequency Power)**: 364.97 ms² **LF/HF ratio***: 9.13	**HRV Frequency-Domain Results** **Total Power**: 1,125.78 ms² **LF* (Low Frequency Power)**: 671.26 ms² **HF (High Frequency Power)**: 454.52 ms² **LF/HF ratio***: 1.48
Heart Rate Results **Minimum HR**: 68.42 bpm **Maximum HR**: 105.93 bpm **Average HR**: 85.79 bpm	**Heart Rate Results** **Minimum HR**: 66.57 bpm **Maximum HR**: 96.15 bpm **Average HR**: 78.04 bpm
Intra-Reading Chart See More 	**Intra-Reading Chart** See More 
RR Intervals, ms 	RR Intervals, ms 



Lampiran 3 Data hasil pengukuran responden 3

Pengukuran 1 (Kawasan Perkotaan)	Pengukuran 2 (Kawasan Urban Oasis)
Heart-rate 87	Heart-rate 78
Heartrate Variable 39	Heartrate Variable 47

HRV Time-Domain Results **Mean RR interval**: 692 ms **rMSSD**: 12.67 ms **ln(rMSSD)**: 2.54 ms **SDNN**: 40.39 ms **PNN50**: % **NN50**: 0 **7 Day HRV CV**: N/A	**HRV Time-Domain Results** **Mean RR interval**: 773 ms **rMSSD**: 21.36 ms **ln(rMSSD)**: 3.06 ms **SDNN**: 58.34 ms **PNN50**: 1% **NN50**: 1 **7 Day HRV CV**: N/A
HRV Frequency-Domain Results **Total Power**: 425.55 ms² **LF* (Low Frequency Power)**: 390.15 ms² **HF (High Frequency Power)**: 35.41 ms² **LF/HF ratio***: 11.02 *Recent research shows measurements longer than 4 minutes are needed for confident LF and LF/HF results	**HRV Frequency-Domain Results** **Total Power**: 772.12 ms² **LF* (Low Frequency Power)**: 497.92 ms² **HF (High Frequency Power)**: 274.20 ms² **LF/HF ratio***: 1.82 *Recent research shows measurements longer than 4 minutes are needed for confident LF and LF/HF results
Heart Rate Results **Minimum HR**: 76.90 bpm **Maximum HR**: 99.26 bpm **Average HR**: 86.75 bpm	**Heart Rate Results** **Minimum HR**: 68.34 bpm **Maximum HR**: 92.81 bpm **Average HR**: 77.61 bpm