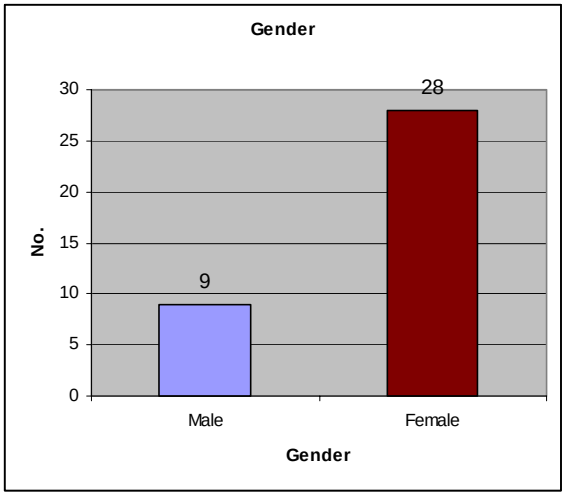
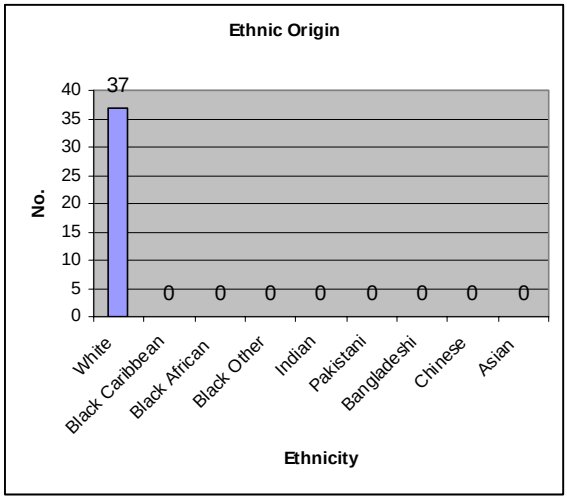
Wear Purple Quantitative Findings

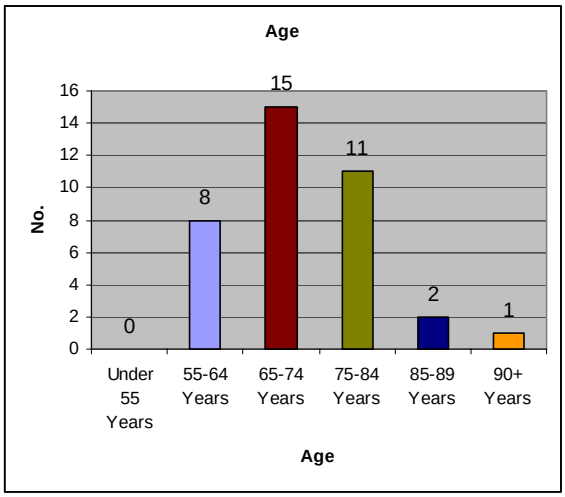
For the quantitative side of Wear Purple's evaluation, Ryff's Scale of Psychological Wellbeing and the General Health Questionnaire (GHQ 28) were used.

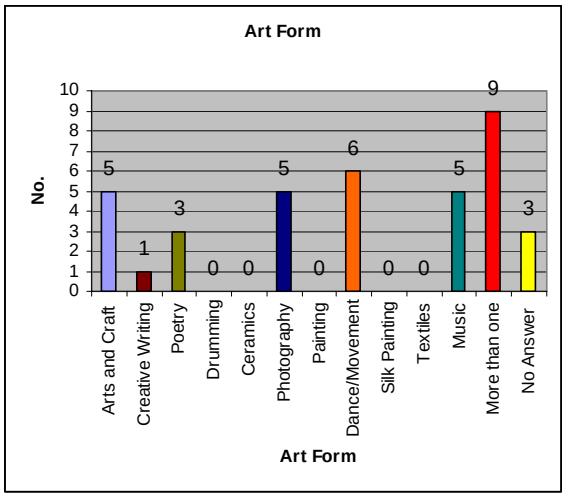
48 participants completed the pre questionnaire packs. 11 participants dropped out and stopped attending the project during the 12 week period meaning 37 participants completed both pre and post questionnaire. Unfortunately, the 11 who only completed the pre questionnaires will have to be discounted. 3 participants missed out the severe depression subsection of the GHQ so for this subsection there is only 34 participants.

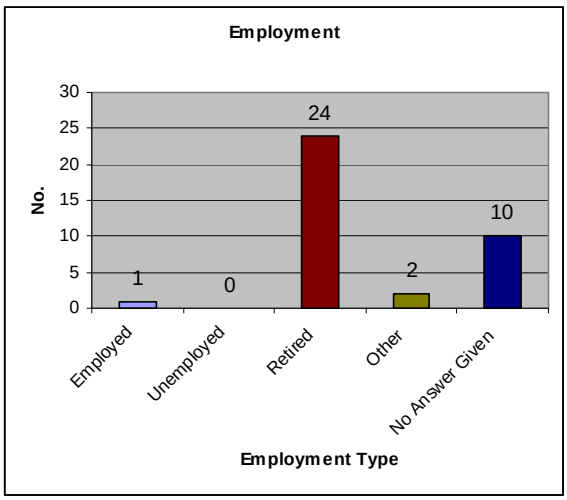
Demographics

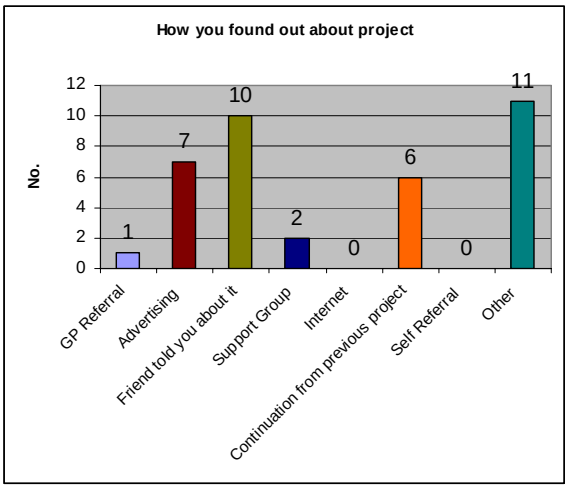












The demographic information shows that the majority of participants were female. This was to be expected as many arts and health projects struggle to reach men. Bearing this in mind, having almost 25% of the participants as male is actually quite a high percentage.
The data showed most participants were from the middle age ranges, as there are fewer participants aged below 65 years or above 85 years. The information shows that the majority of participants were retired, which was to be expected considering the project targeted older people, and all participants who took part were of white ethnic origin. Participants who took part were from a range of different art forms, the most popular being arts and craft, photography, dance and music. Nearly a quarter of participants stated that they were involved with more than one art form. A large percentage of participants were told about the project by a friend. Advertising and continuation from a previous project were also popular ways people found out about the project.

Wear Purple Data Analysis

Cronbachs Alpha Reliability Test:

This test was used on both Ryffs (2004) Scale of Psychological Wellbeing and the General Health Questionnaire. It is used to check that participants answered questions consistently and therefore reliably. For example if a participant scored highly on the autonomy subsection of the pre Wellbeing scale, we would expect them to score relatively highly on the other five wellbeing subscales. This test is a good way of ensuring participants answered honestly as, for example, if a participant guessed at their answers, scores would jump from high to low and this would produce a low reliability score. A reliability score of 0.7 or higher is considered acceptable.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	0.783	0.836
	Environmental Mastery	0.830	0.864
	Personal Growth	0.743	0.824
	Positive Relationships	0.826	0.827
	Purpose in Life	0.810	0.831
	Self Acceptance	0.842	0.892
GHQ	Somatic	0.867	0.805
	Anxiety & Insomnia	0.917	0.913
	Social Dysfunction	0.827	0.822
	Severe Depression	0.888	0.856

As the above tables show for all subscales of the Wellbeing Scale and the General Health Questionnaire, the reliability score is above 0.7 meaning all results are reliable.

Paired Samples t test:

A paired samples t test was carried out on the results from Ryff's Scale of Psychological Wellbeing and the General Health Questionnaire 28.

This firstly analyses the correlation between pre and post scores for each participant. We would expect that there would be a relatively high level of correlation as if for example a participant answered highly for the autonomy subscale in the pre questionnaire, we would also expect them to answer relatively highly for that subscale in the post questionnaire.

It also computes whether the pre and post mean scores for each participant are different enough to be significant and not down to chance. For a result to be statistically significant this difference in the two mean scores should have a significance rating of 0.05 or below. In other words there should be a 5% chance or less that such a change in mean scores could have been obtained by chance.

Wellbeing Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t value	df	Sig. (2 tailed)
Autonomy	37	62.27	62.03	-0.24	0.875	**0.000**	0.269	36	**0.789**
Enviro Mastery	37	61.84	62.03	0.19	0.768	**0.000**	0.151	36	**0.881**
Personal Growth	37	64.11	63.00	-1.11	0.756	**0.000**	0.984	36	**0.331**
Pos. Relations	37	65.05	64.78	-0.27	0.727	**0.000**	0.211	36	**0.834**
Purpose in Life	37	60.14	59.57	-0.57	0.779	**0.000**	0.475	36	**0.638**
Self Acceptance	37	62.19	62.57	0.38	0.831	**0.000**	0.339	36	**0.737**
Wellbeing Overall	37	62.60	62.33	-0.27	0.863	**0.000**	0.367	36	**0.716**

As you can see from the table above, for the wellbeing scale, all subscales and the overall score had a highly significant level of correlation (<0.05) between pre and post answers. However, the t test looking at the difference between means found that for all subscales and the overall score, their significance rating was greater than 0.05 meaning there is a more than 5% chance that such results could be down to chance. Therefore for all wellbeing subscales and wellbeing overall, the difference between pre and post scores are not statistically significant.

With the Wellbeing Scale we would hope to find that a participant's wellbeing had increased over the course of the project. We would therefore hope that the mean scores would increase from their pre questionnaire to their post one. In fact if we examine whether mean scores increased or decreased over the project, the majority of participants mean scores actually decreased slightly indicating a minor drop in wellbeing.
The overall wellbeing score is a total of all subscales added together and this was also found to suggest a slightly drop in wellbeing but not one that is big enough to be statistically significant.

Therefore, with the overall wellbeing score as well as each subsection, participants scored almost identically between their pre and post questionnaires. Any difference which did occur can be down to chance.

As multiple t tests have been performed on the data, due to testing all subscales and the overall sum of subscales, there is a greater risk that some scores could have been achieved by chance. For this reason it is necessary to carry out a more stringent level of statistical analysis. The overall scores can remain being tested at <0.05 but the subscales, as they are further t tests carried out within the overall score, require the bonferroni method of correction. This involves dividing 0.05 by the number of subscales being tested. The new figure for wellbeing is therefore <0.0083. For a subscale to be statistically significant to the bonferroni level their significance rating must be less than 0.0083 meaning there is a less than 0.8% chance that such results could be achieved by chance. As results were not significant at the <0.05 level they are also not significant at the bonferroni level.

General Health Questionnaire:

	N	Pre mean	Post mean	Diff	Correlation Score	Correlation Sig.	t value	df	Sig. (2 tailed)
Somatic Symptoms	37	4.57	3.92	-0.65	0.656	**0.000**	1.327	36	**0.193**
Anxiety and Insomnia	37	4.76	4.84	0.08	0.684	**0.000**	0.136	36	**0.893**
Social Dysfunction	37	7.43	7.64	0.21	0.684	**0.000**	0.666	36	**0.509**
Severe Depression	34	1.88	1.47	-0.41	0.308	**0.076**	0.711	33	**0.482**
Overall GHQ	34	4.57	4.44	-0.13	0.709	**0.000**	.0321	33	**0.750**

As the above table indicates, the first 3 subscales and the overall GHQ score have very high significant levels of correlation. However, with the severe depression subscale there is a 7% chance that such correlation could have been achieved by chance so this correlation is not statistically significant.
As with the Wellbeing scale, the t test looking at the difference between GHQ mean scores pre and post found that there wasn't enough variation to say that the difference had a less than 5% chance that it could have been achieved by chance. All GHQ subscales and the overall GHQ score are therefore not statistically significant.

With the General Health Questionnaire we would hope to find that mean scores decreased from pre to post questionnaires as a higher score indicates more severe health problems. We would hope to find that health problems had decreased during the course of the project. As the table shows Anxiety and Insomnia and Social Dysfunction appears to worsen slightly over the course of the project. Somatic Symptoms and Severe Depression appear to improve. The overall health score does decrease for participants so on the whole participants health improves slightly during the period of engaging with the arts but these changes are slight and are so small they could have occurred through chance alone.

As with the wellbeing questionnaire, as multiple t tests have been performed on the data within the overall score there is a greater risk that some results could have been achieved by chance. The bonferroni method of correction is therefore also applied to the GHQ subscales. In this instance 0.05 is divided by just 4 subscales giving a new more stringent level of analysis at <0.0125 meaning scores are significant if they have a less than 1% chance of being achieved by chance. As GHQ subscale scores were not significant at <0.05 they are also not significant at <0.0125.

Wear Purple Data Analysis on Data without Missing Values Filled In

Data analysis was firstly done on data which had some missing values. Any missing answers to questionnaires were left which resulted in some participants being discounted from the data analysis as SPSS automatically leaves out any scales which have missing values. The results from this data analysis are below. These are included for comparison purposes.

Cronbachs Alpha Reliability Test

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	0.779	0.804
	Environmental Mastery	0.824	0.858
	Personal Growth	0.756	0.841
	Positive Relationships	0.827	0.838
	Purpose in Life	0.847	0.837
	Self Acceptance	0.867	0.873
GHQ	Somatic	0.856	0.801
	Anxiety & Insomnia	0.924	0.912
	Social Dysfunction	0.854	0.825
	Severe Depression	0.856	0.856

Paired Sample T Test

Wellbeing:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	30	62.53	63.07	0.54	0.862	**0.000**	0.540	29	**0.593**
Enviro Mastery	32	62.15	63.06	0.91	0.779	**0.000**	0.679	34	**0.502**
Personal Growth	31	65.06	63.81	-1.25	0.772	**0.000**	1.007	30	**0.322**
Pos. Relations	33	64.73	65.24	0.51	0.764	**0.000**	0.411	32	**0.684**
Purpose in Life	32	61.41	60.16	-1.25	0.772	**0.000**	0.959	31	**0.345**
Self Acceptance	29	63.45	64.62	1.17	0.803	**0.000**	0.906	28	**0.373**
Wellbeing Overall	23	63.06	64.04	0.98	0.879	**0.000**	1.061	22	**0.300**

GHQ:

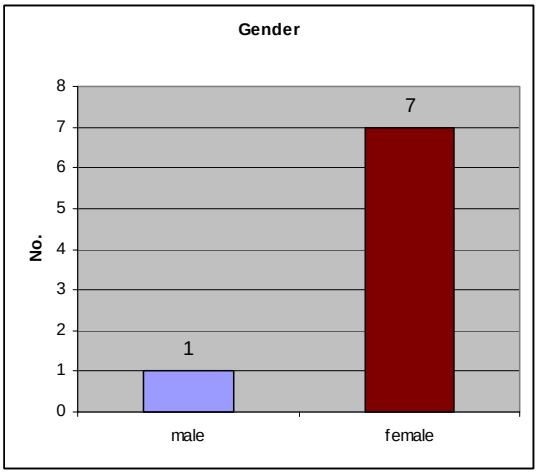
	N	Pre mean	Post mean	Diff in pre to post means	Corr Score	Corr Sig.	t	df	Sig. Val
Somatic Symptoms	35	4.17	3.91	-0.26	0.753	**0.000**	0.636	34	**0.529**
Anxiety and Insomnia	35	4.71	4.62	-0.09	0.691	**0.000**	0.138	34	**0.891**
Social Dysfunction	35	7.40	7.57	0.17	0.684	**0.000**	0.505	34	**0.617**
Severe Depression	32	1.88	1.50	-0.38	0.330	**0.065**	0.625	31	**0.537**
Overall GHQ	29	4.29	4.33	0.04	0.713	**0.000**	0.080	28	**0.937**

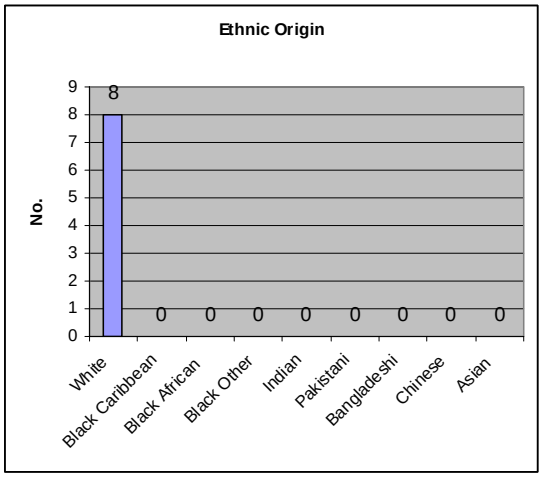
Stockport Quantitative Findings

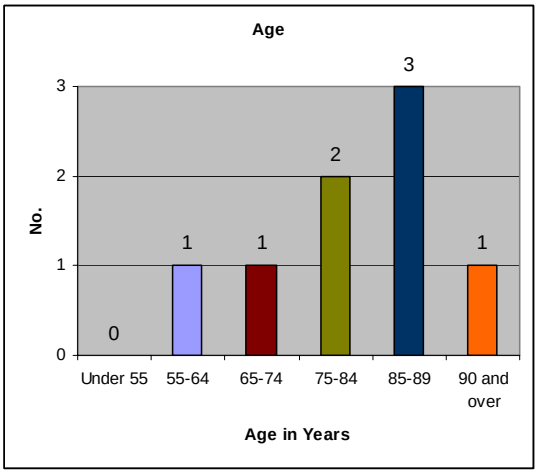
For the quantitative side of Stockport's evaluation, Ryff's Scale of Psychological Wellbeing and the General Health Questionnaire (GHQ 28) were used.

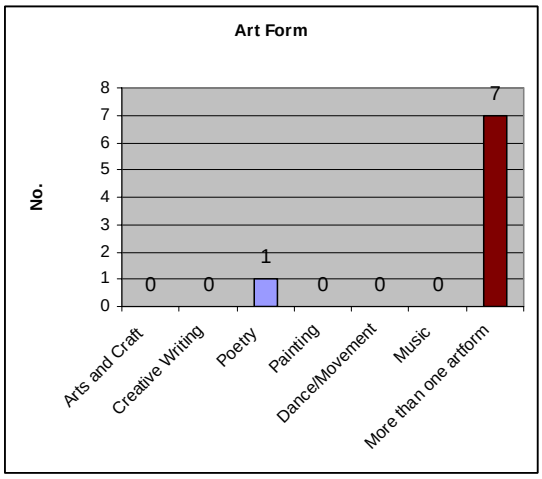
13 participants from Marhill Residential home and Cherry Tree Hospital completed the pre questionnaire packs. Five participants dropped out or stopped attending the project during the 12 week period so there were only 8 participants who completed both pre and post questionnaires.

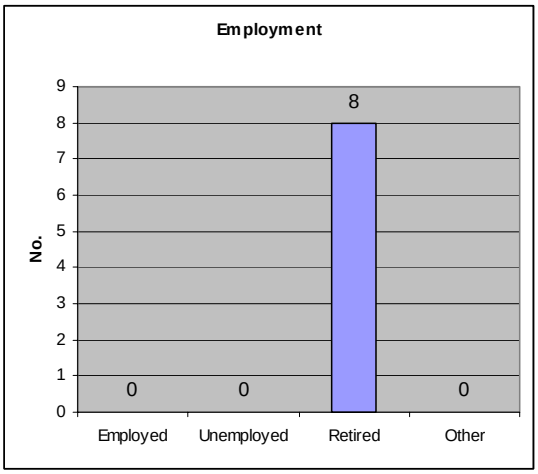
Demographics

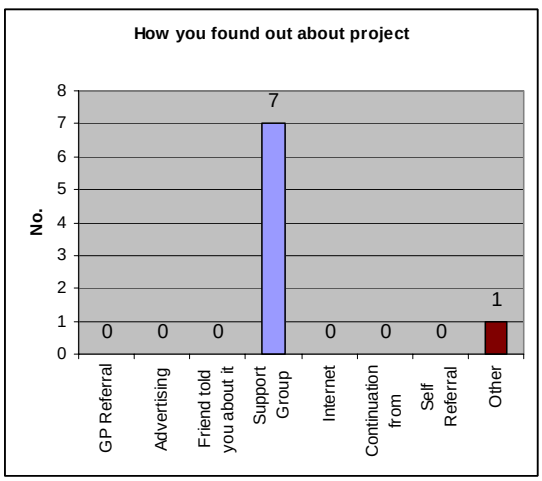












The demographic information shows that nearly all of the participants were female. This was to be expected as there are more women than men who take part in the arts sessions at Marhill Court. Also, not many questionnaires were completed at Cherry Tree Hospital where there was a more even gender split. Most participants were in the upper age bracket, over 75 years old. This was to be expected as participants were selected from a residential home for the elderly or a rehabilitation ward where most patients were recovering from strokes or similar conditions. For the same reasons it is understandable that all participants were retired. All participants were of white ethnic origin and the majority stated they had taken part in more than one art form. Most participants also said they found out about the project through a support group. This makes sense as most participants who took part in the questionnaires live at Marhill Residential home where support groups and social events are held so people can find out about activities such as the arts project.

Stockport Data Analysis

Cronbachs Alpha Reliability Test:

This test was used on both Ryffs (2004) Scale of Psychological Wellbeing and the General Health Questionnaire. It is used to check that participants answered questions consistently and therefore reliably. For example if a participant scored highly on the autonomy subsection of the pre Wellbeing scale, we would expect them to score relatively highly on the other five wellbeing subscales. This test is a good way of ensuring participants answered honestly as, for example, if a participant guessed at their answers, scores would jump from high to low and this would produce a low reliability score. A reliability score of 0.7 or higher is considered acceptable.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	0.793	0.803
	Environmental Mastery	0.864	0.766
	Personal Growth	0.757	0.844
	Positive Relationships	0.702	0.608
	Purpose in Life	0.071	0.049
	Self Acceptance	0.846	0.868
GHQ	Somatic	0.766	0.406
	Anxiety & Insomnia	0.887	0.807
	Social Dysfunction	0.521	0.712
	Severe Depression	0.713	0.664

The majority of Cronbach Alpha scores for the Wellbeing Questionnaire and GHQ are above 0.7 which means most are therefore reliable. However, the purpose in life subscale of the wellbeing questionnaire is not reliable as well as the pre social dysfunction, post somatic and post severe depression subscales of the GHQ.

Paired Samples t test:

A paired samples t test was carried out on the results from Ryff's Scale of Psychological Wellbeing and the General Health Questionnaire 28.

This firstly analyses the correlation between pre and post scores for each participant. We would expect that there would be a relatively high level of correlation as if for example a participant answered highly for the autonomy subscale in the pre questionnaire, we would also expect them to answer relatively highly for that subscale in the post questionnaire.

It also computes whether the pre and post mean scores for each participant are different enough to be significant and not down to chance. For a result to be statistically significant this difference in the two mean scores should have a significance rating of 0.05 or below. In other words there should be a 5% chance or less that such a change in mean scores could have been obtained by chance.

Wellbeing Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	8	66.38	68.75	2.38	0.722	**0.043**	0.85	7	**0.422**
Environmental Mastery	8	61.75	67.75	6.00	0.670	**0.069**	1.83	7	**0.109**
Personal Growth	8	64.88	64.25	-0.63	0.536	**0.171**	0.17	7	**0.870**
Positive Relationships with others	8	61.63	68.38	6.75	0.030	**0.943**	1.58	7	**0.158**
Purpose in Life	8	53.25	56.75	3.5	0.149	**0.724**	1.18	7	**0.274**
Self Acceptance	8	65.25	69.63	4.38	0.710	**0.048**	1.39	7	**0.206**
Wellbeing Overall	8	62.19	65.92	3.73	0.485	**0.223**	1.62	7	**0.150**

As the above table shows, only two wellbeing subscales, autonomy and self acceptance, had significant levels of correlation (<0.05) between pre and post answers.

The t test looking at the difference between means for pre and post questionnaires found that in all but the personal growth subscale, mean scores increased showing an improvement in wellbeing over the 12 week period. However, the t test scores show that the difference between these means in all cases was not large enough to be classed as statistically significant. All significance ratings were over 0.05 which means there is a more than 5% chance that such results could have been achieved by chance.

The overall wellbeing score is a total of all subscales added together and this was found to suggest a slight increase in wellbeing but not one that is big enough to be statistically significant. Therefore, with the overall wellbeing score as well as each subsection, participants scored almost identically between their pre and post questionnaires. Any difference which did occur can be down to chance.

As multiple t tests have been performed on the data, due to testing all subscales and the overall sum of subscales, there is a greater risk that some scores could have been achieved by chance. For this reason it is necessary to carry out a more stringent level of statistical analysis. The overall scores can remain being tested at <0.05 but the subscales, as they are further t tests carried out within the overall score, require the bonferroni method of correction. This involves dividing 0.05 by the number of subscales being tested. The new figure for wellbeing is therefore <0.0083. For a subscale to be statistically significant to the bonferroni level their significance rating must be less than 0.0083 meaning there is a less than 0.8% chance that such results could be achieved by chance. As results were not significant at the <0.05 level they are also not significant at the bonferroni level.

General Health Questionnaire:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Somatic Symptoms	8	4.88	5.38	0.50	0.207	**0.623**	0.302	7	**0.772**
Anxiety and Insomnia	8	2.86	3.50	0.64	0.486	**0.223**	0.523	7	**0.617**
Social Dysfunction	8	7.13	8.75	1.62	0.536	**0.171**	2.089	7	**0.075**
Severe Depression	8	1.13	1.50	0.37	0.387	**0.344**	0.574	7	**0.584**
Overall GHQ	8	4.00	4.78	0.78	0.172	**0.684**	0.956	7	**0.371**

As the above table shows, none of the GHQ subscales or the GHQ overall scores have a correlation score of 0.05 or below. This means that in all cases there is a more than 5% chance that such a level of correlation could have been achieved by chance and is therefore not statistically significant.

The t test looked at the differences between mean scores for the pre and post GHQ questionnaires. The table above shows that for all subscales there was an increase in the means between pre and post questionnaires. This actually indicates a decrease in overall health score. However this decrease in health is slight and has a greater than 5% chance that it could be down to chance alone so therefore is not statistically significant.

As with the wellbeing questionnaire, as multiple t tests have been performed on the data within the overall score there is a greater risk that some results could have been achieved by chance. The bonferroni method of correction is therefore also applied to the GHQ subscales. In this instance 0.05 is divided by just 4 subscales giving a new more stringent level of analysis at <0.0125 meaning scores are significant if they have a less than 1% chance of being achieved by chance. As GHQ subscale scores were not significant at <0.05 they are also not significant at <0.0125.

Stockport Data Analysis on Data without Missing Values

Data analysis was firstly done on data which had some missing values. Any missing answers to questionnaires were left which resulted in some participants being discounted from the data analysis as SPSS automatically leaves out any scales which have missing values. The results from this data analysis are below for comparison purposes.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	0.783	0.803
	Environmental Mastery	0.862	0.766
	Personal Growth	0.666	0.844
	Positive Relationships	0.780	0.608
	Purpose in Life	0.516	0.049
	Self Acceptance	0.824	0.868
GHQ	Somatic	0.729	0.406
	Anxiety & Insomnia	0.843	0.807
	Social Dysfunction	0.616	0.712
	Severe Depression	0.545	0.664

Wellbeing Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	7	65.86	70.57	4.71	0.904	**0.005**	2.706	6	**0.035**
Environmental Mastery	8	61.75	67.75	6.00	0.670	**0.069**	1.833	7	**0.109**
Personal Growth	8	64.88	64.25	-0.63	0.536	**0.171**	0.169	7	**0.870**
Positive Relationships with others	8	61.63	68.38	6.75	0.030	**0.943**	1.582	7	**0.158**
Purpose in Life	8	53.25	56.75	3.50	0.149	**0.724**	1.188	7	**0.274**
Self Acceptance	8	65.25	69.63	4.38	0.710	**0.048**	1.394	7	**0.206**
Wellbeing Overall	7	61.02	66.26	5.42	0.670	**0.100**	2.602	6	**0.041**

General Health Questionnaire:

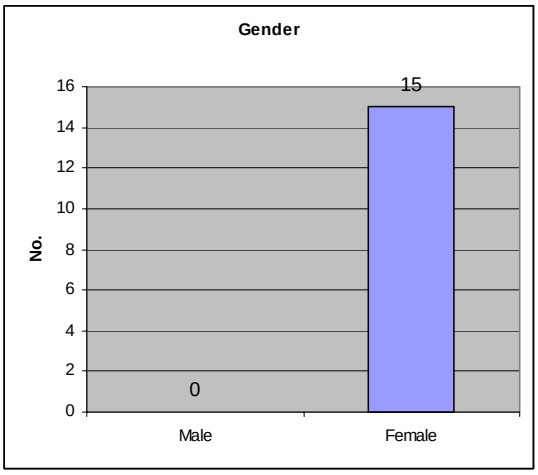
	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Somatic Symptoms	8	4.88	5.38	0.50	0.207	**0.623**	0.302	7	**0.772**
Anxiety and Insomnia	8	2.88	3.50	0.62	0.486	**0.223**	0.523	7	**0.617**
Social Dysfunction	8	7.13	8.75	1.62	0.536	**0.171**	2.089	7	**0.075**
Severe Depression	8	1.13	1.50	0.37	0.387	**0.344**	0.574	7	**0.584**
Overall GHQ	8	4.00	4.78	0.78	0.172	**0.684**	0.956	7	**0.371**

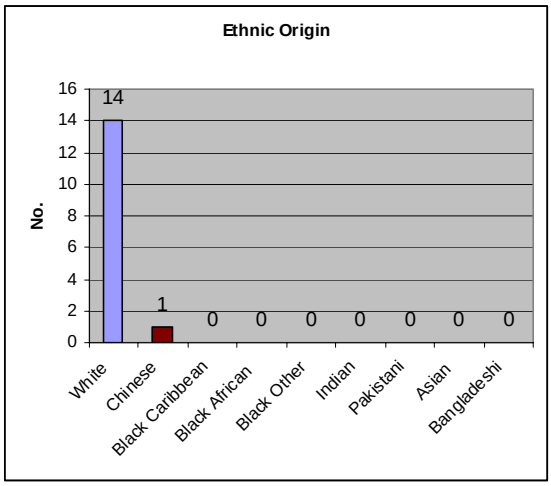
Pendle Arts on Prescription Quantitative Findings

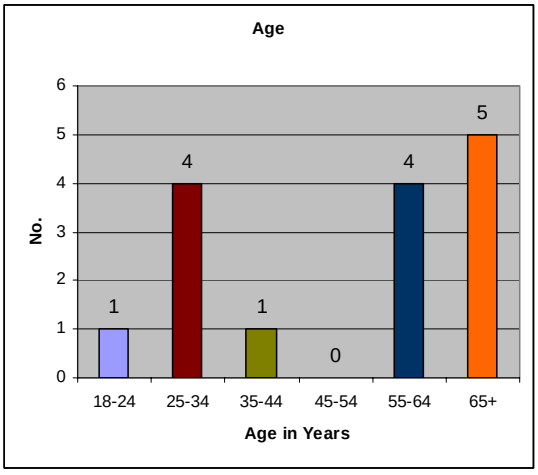
For the quantitative side of Pendle's evaluation, Ryff's Scale of Psychological Wellbeing and the General Health Questionnaire (GHQ 28) were used.

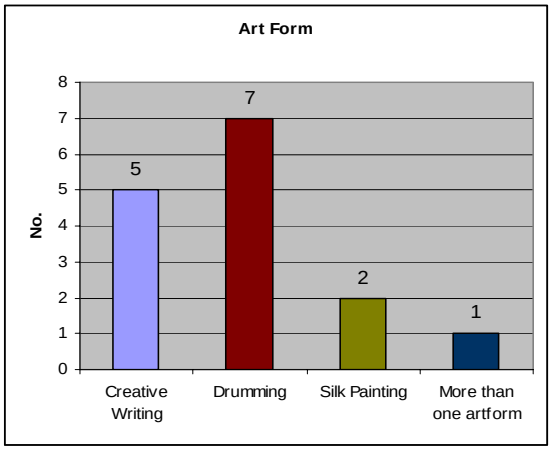
27 participants completed the pre questionnaire packs. 12 participants dropped out and stopped attending the project during the 12 week period meaning 15 participants completed both pre and post questionnaire. Unfortunately, the 12 who only completed the pre questionnaires will have to be discounted. 3 participants missed out the post GHQ so for this subsection there is only 12 participants.

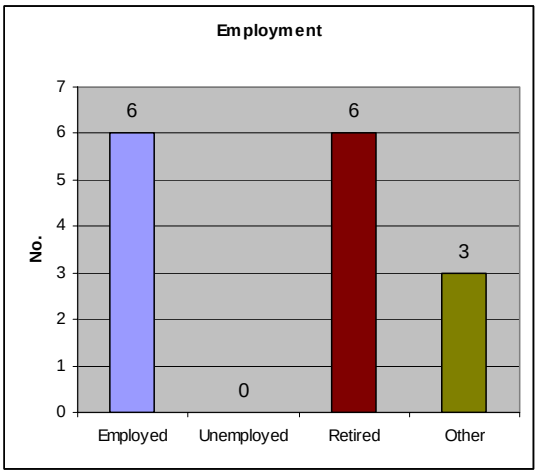
Demographics

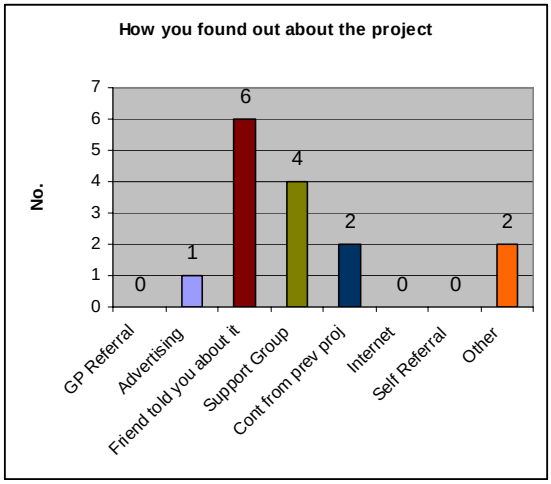












The demographic information shows that all 15 participants who completed both pre and post questionnaires were female. In fact even if the 11 participants who dropped out are included, the gender split is still 100% female. This doesn't allow us to look at gender differences but it unfortunately is a common occurrence in many arts and health projects as men are typically harder to engage than women.

The data shows most participants were from the slightly older age ranges. There were younger and middle aged participants but nearly 60% were aged 55 or older.

Most participants who attended the project were either employed (40%) or retired (40%). The remaining participants answered 'other' to this question.

The demographic results for Pendle are slightly surprising as the region is very culturally mixed and has a large Asian population. However, this isn't reflected in the quantitative data as 93% of respondents were white.

Three different art forms were offered to participants on Pendle Arts on Prescription. Most participants who took part in the Invest to Save research were from the drumming group, with fewer numbers from the creative writing and silk painting groups.

Despite the project being an 'Arts on Prescription Scheme' no participants were actually referred to the project by their GP. Most participants were told about the scheme by a friend or support group.

Pendle Arts on Prescription Data Analysis

Cronbachs Alpha Reliability Test:

This test was used on both Ryffs Scale of Psychological Wellbeing and the General Health Questionnaire. It is used to check that participants answered questions consistently and therefore reliably. For example if a participant scored highly on the autonomy subsection of the pre Wellbeing scale, we would expect them to score relatively highly on the other five wellbeing subscales. This test is a good way of ensuring participants answered honestly as, for example, if a participant guessed at their answers, scores would jump from high to low and this would produce a low reliability score. A Cronbach Reliability score of 0.7 or higher is considered acceptable.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	0.947	0.836
	Environmental Mastery	0.943	0.905
	Personal Growth	0.913	0.831
	Positive Relationships	0.895	0.906
	Purpose in Life	0.921	0.903
	Self Acceptance	0.936	0.899
GHQ	Somatic	0.904	0.930
	Anxiety & Insomnia	0.893	0.899
	Social Dysfunction	0.863	0.882
	Severe Depression	0.967	0.983

As the above tables show, for all subscales of the Wellbeing and General Health Questionnaire, the reliability score is above 0.7 meaning all results are reliable.

Paired Samples t test:

A paired samples t test was carried out on the results from Ryff's Scale of Psychological Wellbeing and the General Health Questionnaire 28.

This firstly analyses the correlation between pre and post scores for each participant. We would expect that there would be a relatively high level of correlation as if for example a participant answered highly for the autonomy subscale in the pre questionnaire, we would also expect them to answer relatively highly for that subscale in the post questionnaire.

It also computes whether the pre and post mean scores for each participant are different enough to be significant and not down to chance. For a result to be statistically significant this difference in the two mean scores should have a significance rating of 0.05 or below. In other words there should be a 5% chance or less that such a change in mean scores could have been obtained by chance.

Wellbeing Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	15	65.33	69.20	3.87	0.626	**0.013**	1.560	14	**0.141**
Environmental Mastery	15	63.67	70.00	6.33	0.607	**0.016**	2.264	14	**0.040**
Personal Growth	15	69.40	72.13	2.73	0.597	**0.019**	1.324	14	**0.207**
Positive Relationships with others	15	68.40	72.20	3.80	0.760	**0.001**	2.005	14	**0.065**
Purpose in Life	15	61.73	68.13	6.40	0.860	**0.000**	3.900	14	**0.002**
Self Acceptance	15	60.33	68.27	7.94	0.639	**0.010**	2.967	14	**0.010**
Wellbeing Overall	15	64.81	69.99	5.18	0.681	**0.005**	2.636	14	**0.020**

As you can see from the table above, for the wellbeing scale, all subscales and the overall score had a highly significant level of correlation (<0.05) between pre and post answers.

The t test looking at the difference between mean scores found that some subscales had a significant level of difference between pre and post scores whilst others didn't. We would hope to find that an individuals wellbeing score had increase from pre to post questionnaire and as the table shows for all wellbeing subscales wellbeing scores did increase showing an improvement in wellbeing. However, with Autonomy, Personal Growth and Positive Relationships, the significance rating is over 0.05 meaning there is a more than 5% chance that such a difference could have been achieved by chance. Therefore the difference in means for these 3 subscales is not great enough to be statistically significant.

For the subscales Environmental Mastery, Purpose in Life, Self Acceptance and the overall wellbeing score the difference in means is large enough to be classed as statistically significant. As multiple t tests have been performed on the data, due to testing all subscales and the overall sum of subscales, there is an increased risk that some scores could have been achieved by chance. For this reason it is necessary to carry out a more stringent level of statistical analysis. The overall scores can remain being tested at <0.05 but the subscales, as they are further t tests carried out within the overall score, require the bonferroni method of correction. This involves dividing 0.05 by the number of subscales being tested. The new figure for wellbeing is therefore <0.0083. For a subscale to be statistically significant to the bonferroni level their significance rating must be less than 0.0083 meaning there is a less than 0.8% chance that such results could be achieved by chance. Using this more stringent level of analysis we can see that only one subscale, purpose in life is significant at this higher level. The other five subscales have a greater than 0.8% chance of being achieved by chance so are not significant to the bonferroni level.

General Health Questionnaire:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Somatic Symptoms	12	4.92	3.00	-1.92	0.415	**0.179**	1.455	11	**0.173**
Anxiety and Insomnia	12	5.17	2.25	-2.92	0.512	**0.089**	2.215	11	**0.049**
Social Dysfunction	12	8.42	5.00	-3.42	0.153	**0.635**	2.703	11	**0.021**
Severe Depression	12	2.50	0.92	-1.58	0.895	**0.000**	1.668	11	**0.123**
Overall GHQ	12	5.25	2.79	-2.46	0.546	**0.067**	2.406	11	**0.035**

The correlation analysis for the GHQ shows that only the severe depression subscale has a significant level of correlation (<0.05) between pre and post answers. For the other three subscales and the overall score there is a more than 5% chance that such a level of correlation could have occurred by chance so they do not have statistically significant levels of correlation.

We would hope with the GHQ that mean scores would decrease from pre to post questionnaires. As the table indicates, all subscales and the overall score revealed a decrease in GHQ score meaning there was, in all cases, an improvement in health.

The t test looked at the differences between mean GHQ scores, pre and post, and this shows that somatic symptoms and severe depression subscales have a significance rating of 0.05 or higher and therefore have a greater than 5% chance that such a difference in means is down to chance. These two subscales therefore are not statistically significant.

The differences in mean scores for anxiety and depression and social dysfunction subscales are statistically significant, as is the overall GHQ score. They all have a significance rating of 0.05 or lower meaning there is less than a 5% chance that such a change in means was down to chance.

As with the wellbeing questionnaire, as multiple t tests have been performed on the data within the overall score there is a greater risk that some results could have been achieved by chance. The bonferroni method of correction is therefore also applied to the GHQ subscales. In this instance 0.05 is divided by just 4 subscales giving a new more stringent level of analysis at <0.0125 meaning scores are significant if they have a less than 1% chance of being achieved by chance. When employing this higher level of analysis none of the subscales is found to be statistically significant.

Pendle Arts on Prescription Data Analysis on Data Without Missing Values

Data analysis was firstly done on data which had some missing values. Any missing answers to questionnaires were left which resulted in some participants being discounted from the data analysis as SPSS automatically leaves out any scales which have missing values. The results from this preliminary data analysis are below for comparison purposes.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	0.945	0.839
	Environmental Mastery	0.934	0.905
	Personal Growth	0.915	0.828
	Positive Relationships	0.876	0.906
	Purpose in Life	0.925	0.899
	Self Acceptance	0.939	0.891
GHQ	Somatic	0.875	0.924
	Anxiety & Insomnia	0.932	0.901
	Social Dysfunction	0.840	0.883
	Severe Depression	0.949	0.983

Paired Sample T Test Wellbeing

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	15	66.54	71.00	4.46	0.620	**0.24**	1.620	12	**0.131**
Environmental Mastery	15	63.67	70.00	6.33	0.607	**0.016**	2.264	14	**0.040**
Personal Growth	15	71.15	74.38	3.23	0.403	**0.172**	1.387	12	**0.191**
Positive Relationships with others	15	66.92	71.33	4.41	0.724	**0.008**	1.898	11	**0.084**
Purpose in Life	15	61.73	68.13	6.40	0.860	**0.000**	3.900	14	**0.002**
Self Acceptance	15	60.57	68.00	7.43	0.651	**0.012**	2.634	13	**0.021**
Wellbeing Overall	15	66.07	71.55	5.48	0.678	**0.031**	1.966	9	**0.081**

Paired Sample T Test GHQ

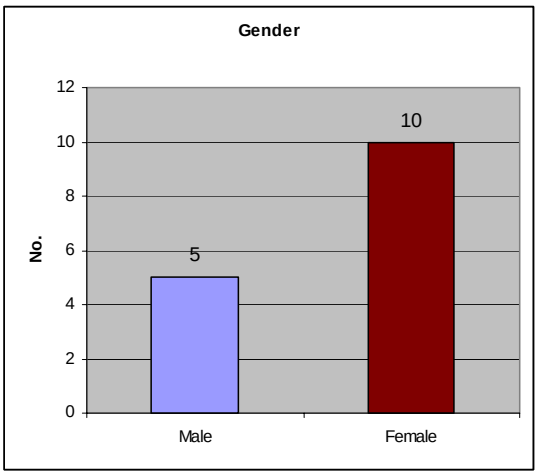
	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Somatic Symptoms	11	5.27	2.82	-2.45	0.485	**0.131**	1.864	10	**0.092**
Anxiety and Insomnia	12	5.17	2.25	-2.92	0.512	**0.089**	2.215	11	**0.049**
Social Dysfunction	12	8.42	5.00	-3.42	0.153	**0.635**	2.703	11	**0.021**
Severe Depression	12	2.50	0.92	-1.58	0.895	**0.000**	1.668	11	**0.123**
Overall GHQ	11	5.50	2.66	-2.84	0.599	**0.051**	2.737	10	**0.021**

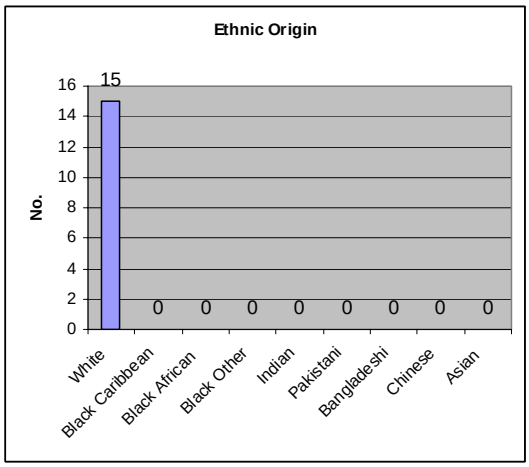
Salford Arts on Prescription Quantitative Findings

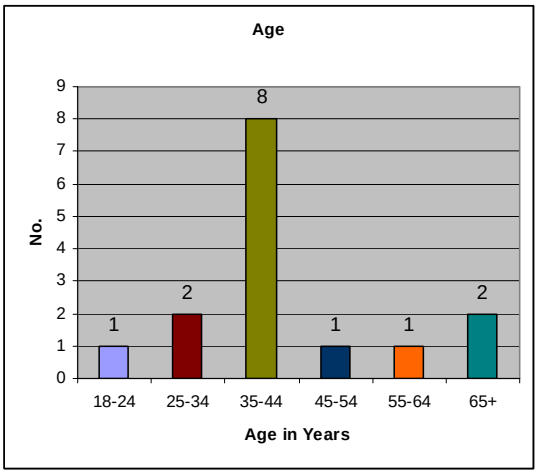
For the quantitative side of Salford Arts on Prescription's evaluation, Ryff's Scale of Psychological Wellbeing, the General Health Questionnaire (GHQ 28) and Hospital Anxiety and Depression Scale (HADS) were used.

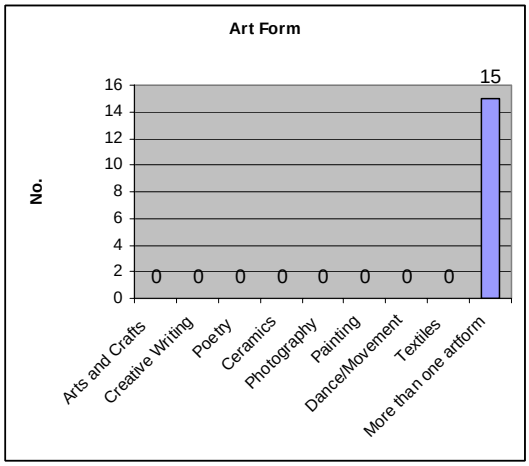
20 participants completed the pre questionnaire packs. 5 participants dropped out and stopped attending the project during the 12 week period meaning 15 participants completed both pre and post questionnaire. Unfortunately, the 5 who only completed the pre questionnaires will have to be discounted.

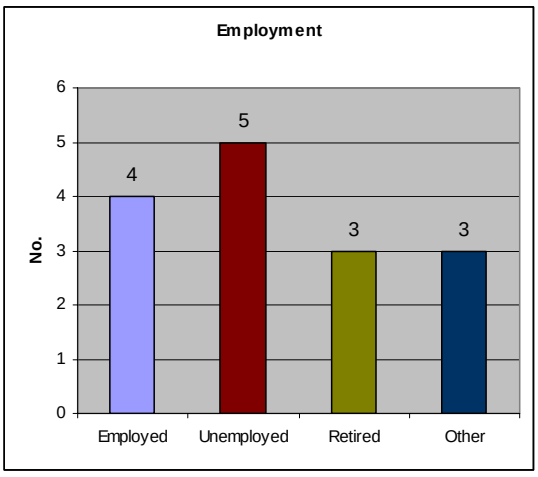
Demographics

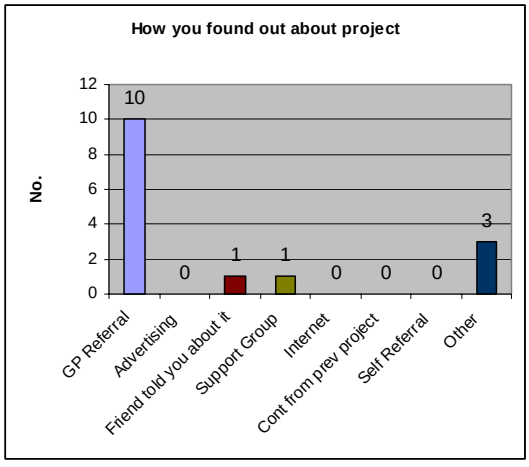












The demographic information shows that two thirds of participants were female. As arts and health projects often struggle to reach men this is not unexpected. Over 50% of participants were from the 35-44 years age range. The project targets all adults and they obviously reach all ages as the table above shows there is at least one participant in every age bracket from 18 up to 65 years plus.

There was a fairly even spread of employment for participants. Some were employed, some were unemployed and some were retired. 20% of participants answered 'other' to this question. This could possibly mean that they are off work due to their mild to moderate depression or anxiety.

All participants who took part were of white ethnic origin and all participants stated they were engaging in more than one art form.

Two thirds of participants were referred to the project by their GP. The project is an arts on prescription project so this would be hoped for. Participants also found out about the project through a friend or support group.

Salford Arts on Prescription Data Analysis

Cronbachs Alpha Reliability Test:

This test was used on Ryffs (2004) Scale of Psychological Wellbeing, the General Health Questionnaire and the Hospital Anxiety and Depression Scale. It is used to check that participants answered questions consistently and therefore reliably. For example if a participant scored highly on the autonomy subsection of the pre Wellbeing scale, we would expect them to score relatively highly on the other five wellbeing subscales. This test is a good way of ensuring participants answered honestly as, for example, if a participant guessed at their answers, scores would jump from high to low and this would produce a low reliability score. A reliability score of 0.7 or higher is considered acceptable.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	0.795	0.815
	Environmental Mastery	0.851	0.931
	Personal Growth	0.762	0.643
	Positive Relationships	0.898	0.919
	Purpose in Life	0.775	0.868
	Self Acceptance	0.894	0.910
GHQ	Somatic	0.831	0.875
	Anxiety & Insomnia	0.909	0.931
	Social Dysfunction	0.885	0.949
	Severe Depression	0.937	0.932
HAD	Anxiety	0.690	0.840
	Depression	0.755	0.887

As the above tables show for almost all subscales of the Wellbeing Scale, General Health Questionnaire and Hospital Anxiety and Depression Scale, the reliability score is above 0.7 meaning most results are reliable. The most personal growth subscale of the wellbeing questionnaire and the pre anxiety subscale of the HAD are slightly below the reliability score of 0.7.

Paired Samples t test:

A paired samples t test was carried out on the results from Ryff's Scale of Psychological Wellbeing, the General Health Questionnaire 28 and the Hospital Anxiety and Depression Scale.

This firstly analyses the correlation between pre and post scores for each participant. We would expect that there would be a relatively high level of correlation as if for example a participant answered highly for the autonomy subscale in the pre questionnaire, we would also expect them to answer relatively highly for that subscale in the post questionnaire.

It also computes whether the pre and post mean scores for each participant are different enough to be significant and not down to chance. For a result to be statistically significant this difference in the two mean scores should have a significance rating of 0.05 or below. In other words there should be a 5% chance or less that such a change in mean scores could have been obtained by chance.

Wellbeing Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	15	52.47	55.53	3.06	0.750	**0.001**	1.438	14	**0.172**
Environmental Mastery	15	42.93	47.93	5.00	0.920	**0.000**	2.608	14	**0.021**
Personal Growth	15	62.40	65.73	3.33	0.159	**0.572**	1.184	14	**0.256**
Positive Relationships with others	15	52.27	57.20	4.93	0.817	**0.000**	1.920	14	**0.076**
Purpose in Life	15	47.00	53.13	6.13	0.774	**0.001**	2.725	14	**0.016**
Self Acceptance	15	40.67	47.00	6.33	0.844	**0.000**	2.783	14	**0.015**
Wellbeing Overall	15	49.62	54.42	4.80	0.804	**0.000**	2.670	14	**0.018**

As you can see from the table above, for the wellbeing questionnaire, all subscales except personal growth have a correlation score which is highly significant (<0.05) between pre and post answers.

The t test was used to look at the difference between means. With the Wellbeing Scale we would hope to find that a participant's wellbeing had increased over the course of the project. We would therefore hope that the mean scores would increase from their pre questionnaire to their post one. As the table shows all subscales found an increase in wellbeing from pre to post questionnaires.

The significance value indicates whether this difference is large enough to be considered statistically significant. For three subscales, autonomy, personal growth and positive relationships, the significance scores were over 0.05 indicating there is a more than 5% chance that such scores could be achieved by chance. These are therefore not statistically significant. However, the differences in pre and post scores for the other 3 subscales, as well as the overall wellbeing score, are large enough so that there is a less than 5% chance (<0.05) they could have been achieved by chance. The difference between means for the subscales environmental mastery, purpose in life, self acceptance and the overall wellbeing score, are therefore statistically significant.

As multiple t tests have been performed on the data, due to testing all subscales and the overall sum of subscales, there is a greater risk that some scores could have been achieved by chance. For this reason it is necessary to carry out a more stringent level of statistical analysis. The overall scores can remain being tested at <0.05 but the subscales, as they are further t tests carried out within the overall score, require the bonferroni method of correction. This involves dividing 0.05 by the number of subscales being tested. The new figure for wellbeing is therefore <0.0083. For a subscale to be statistically significant to the bonferroni level their significance rating must be less than 0.0083 meaning there is a less than 0.8% chance that such results could be achieved by chance. Although three subscales were significant at <0.05 none of the subscales are found to be significant when using the more stringent bonferroni level of <0.0083.

General Health Questionnaire:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Somatic Symptoms	15	11.13	9.53	-1.60	0.760	0.001	1.780	14	0.097
Anxiety and Insomnia	15	12.67	11.53	-1.14	0.837	0.000	1.253	14	0.231
Social Dysfunction	15	11.13	8.07	-3.06	0.571	0.026	2.192	14	0.046
Severe Depression	15	8.93	5.67	-3.26	0.641	0.010	2.210	14	0.044
Overall GHQ	15	10.97	8.70	-2.27	0.800	0.000	2.730	14	0.016

As the above table shows for all 4 subscales and the overall health score there are statistically significant levels of correlation. All correlation significance scores are less than 0.05 meaning there is a less than 5% chance that scores could have been achieved by chance. With the GHQ we would hope to find that mean scores decreased from pre to post questionnaires as a higher score indicates more severe health problems. We would hope to find that health problems had decreased during the course of the project. As the table shows, all 4 subscales and the overall health score show a decrease in their means and therefore indicate health improved over the time of participating in the project.

Although health was shown to improve in all 4 subscales, for two of them, somatic symptoms and anxiety and depression, the difference between pre and post means was not enough for it to be classed statistically significant. However the difference in means for social dysfunction, severe depression and the overall health score had a significance score of <0.05 meaning there is less than 5% chance these results were through chance. They are therefore statistically significant.

As with the wellbeing questionnaire, as multiple t tests have been performed on the data within the overall score there is a greater risk that some results could have been achieved by chance. The bonferroni method of correction is therefore also applied to the GHQ subscales. In this instance 0.05 is divided by just 4 subscales giving a new more stringent level of analysis at <0.0125 meaning scores are significant if they have a less than 1% chance of being achieved by chance. When analysed at this level none of the four subscales are found to be statistically significant.

Hospital Anxiety and Depression Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Anxiety	15	13.27	11.13	-2.14	0.802	**0.000**	2.825	14	**0.013**
Depression	15	10.13	7.20	-2.93	0.706	**0.003**	3.143	14	**0.007**
Overall HADS	15	11.70	9.17	-2.53	0.796	**0.000**	3.570	14	**0.003**

The correlation scores for the HADS are all statistically significant as they are all below 0.05 meaning there is a less than 5% chance such results could be achieved by chance. We would hope to find with the HADS that mean scores had decreased from pre to post questionnaires as this would indicate an improvement in anxiety and depression. As the table shows, for anxiety, depression and the overall HADS score there was a decrease in mean scores.

When the paired samples t test was performed on the pre and post mean scores it was found that this decrease in scores in all cases was large enough to be highly significant. There was only a very slight chance that such a change in scores could have resulted from chance. Again, due to the multiple t tests performed and the increased chance that scores could have been reached by chance, the bonferroni method of correction is also applied to the HAD Scale. As there are only two subscales, 0.05 is simply divided by two to give a new significance rating of 0.025. Both the anxiety and depression subscales remain significant even at this more stringent level.

Salford Arts on Prescription Data Analysis on Data without Missing Values

Data analysis was firstly done on data which had some missing values. Any missing answers to questionnaires were left which resulted in some participants being discounted from the data analysis as SPSS automatically leaves out any scales which have missing values. The results from this data analysis are below for comparison purposes.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	0.811	0.791
	Environmental Mastery	0.835	0.908
	Personal Growth	0.844	0.641
	Positive Relationships	0.879	0.909
	Purpose in Life	0.796	0.804
	Self Acceptance	0.891	0.868
GHQ	Somatic	0.820	0.875
	Anxiety & Insomnia	0.882	0.931
	Social Dysfunction	0.832	0.904
	Severe Depression	0.933	0.932
HAD	Anxiety	0.614	0.840
	Depression	0.755	0.888

Paired Samples T Test

Wellbeing Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	14	51.86	54.36	2.50	0.745	**0.002**	1.132	13	**0.278**
Environmental Mastery	14	40.71	45.57	4.86	0.984	**0.000**	2.365	13	**0.034**
Personal Growth	14	62.43	65.00	2.57	0.176	**0.546**	0.883	13	**0.393**
Positive Relationships with others	13	50.85	56.08	5.23	0.779	**0.002**	1.765	12	**0.103**
Purpose in Life	14	45.71	51.07	5.36	0.704	**0.005**	2.361	13	**0.035**
Self Acceptance	14	38.14	44.75	6.61	0.755	**0.002**	2.632	13	**0.021**
Wellbeing Overall	13	48.08	52.68	4.60	0.704	**0.007**	2.245	12	**0.044**

General Health Questionnaire:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Somatic Symptoms	15	11.13	9.53	-1.60	0.760	**0.001**	1.780	14	**0.097**
Anxiety and Insomnia	15	12.67	11.53	-1.14	0.837	**0.000**	1.253	14	**0.231**
Social Dysfunction	14	10.50	7.50	-3.00	0.491	**0.075**	1.999	13	**0.067**
Severe Depression	15	8.93	5.67	-3.26	0.641	**0.010**	2.210	14	**0.044**
Overall GHQ	14	10.43	8.07	-2.36	0.752	**0.002**	2.658	13	**0.020**

Hospital Anxiety and Depression Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Anxiety	15	13.27	11.13	-2.14	0.802	**0.000**	2.825	14	**0.013**
Depression	14	10.21	7.21	-3.00	0.708	**0.005**	3.000	13	**0.010**
Overall HADS	14	11.68	9.04	-2.64	0.798	**0.001**	3.509	13	**0.004**

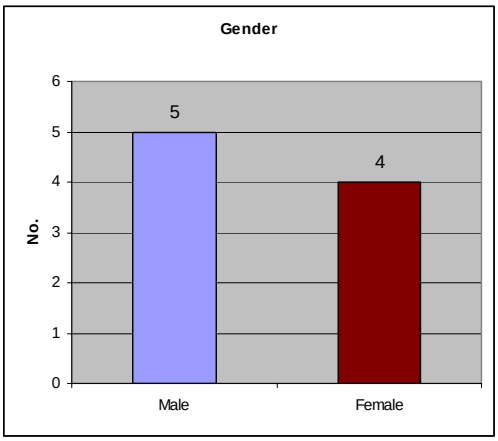
BlueSCI Quantitative Findings

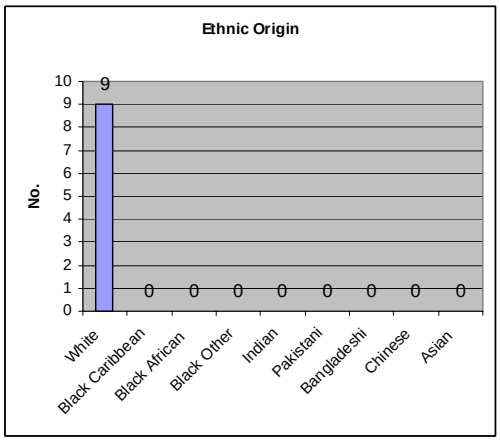
For the quantitative side of BlueSCI's evaluation, two samples of participants were used. Questionnaires were give to participants on the project as well as staff working at the centre. These two sets of figures have had to be analysed separated so I will go over each separately, starting with the participants.

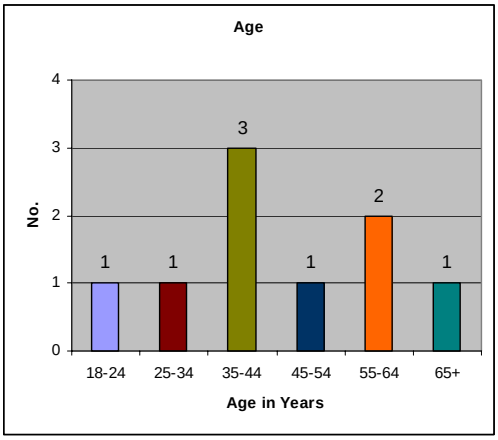
Participant Data

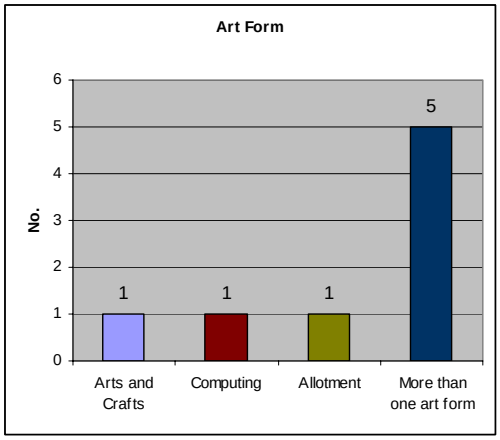
For Participants, Ryff's Scale of Psychological Wellbeing, the General Health Questionnaire (GHQ 28) and the Hospital Anxiety and Depression Scale (HADS) were used. 9 participants completed both the pre and post questionnaire packs. One participant missed out the HADS so will therefore have to be discounted from that scale.

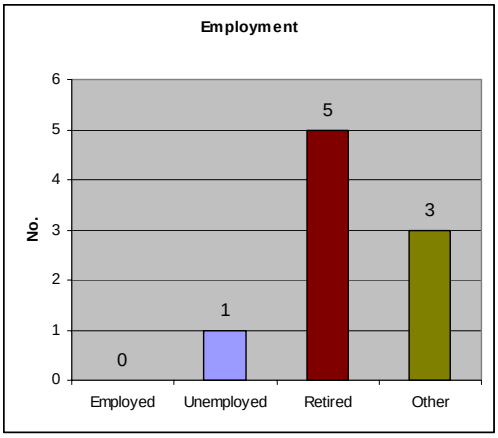
Demographics

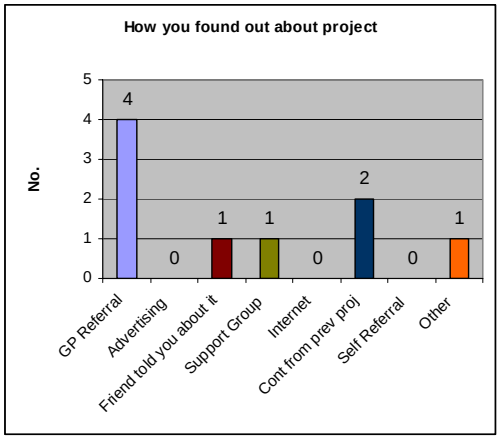












The demographic information shows that there was a pretty even split between males and female participants. There was also a fairly even spread of ages through the participants. Ages ranged from the lower sale of 18-24 up to the eldest grouping of age 65+. Most participants were retired and noticeably none were classed as employed. This is probably due to the project targeting people with mild to moderate depression and anxiety. All 9 participants who completed questionnaires were of white ethnic origin. Most participants answered that they were taking part in more than one art form, with arts and crafts, computers and allotment being named as specifics. One participant missed out this question. Finally, most participants (44%) found out about the project through GP referral. Other methods were through friends, through previous projects or through support groups.

Blue SCI Participant Data Analysis

Cronbachs Alpha Reliability Test:

This test was used on all Questionnaires. It is used to check that participants answered questions consistently and therefore reliably. For example if a participant scored highly on the autonomy subsection of the pre Wellbeing scale, we would expect them to score relatively highly on the other five wellbeing subscales. This test is a good way of ensuring participants answered honestly as, for example, if a participant guessed at their answers, scores would jump from high to low and this would produce a low reliability score. A reliability score of 0.7 or higher is considered acceptable.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	0.863	0.868
	Environmental Mastery	0.887	0.923
	Personal Growth	0.835	0.689
	Positive Relationships	0.827	0.930
	Purpose in Life	0.847	0.834
	Self Acceptance	0.957	0.923
GHQ	Somatic	0.757	0.870
	Anxiety & Insomnia	0.913	0.951
	Social Dysfunction	0.920	0.889
	Severe Depression	0.915	0.915
HAD	Anxiety	0.823	0.930
	Depression	0.856	0.877

As the above tables show for all subscales of the Wellbeing Scale, the General Health Questionnaire, and the Hospital Anxiety and Depression Score the reliability score is above 0.7 meaning all results are reliable.

Paired Samples t test:

A paired samples t test was carried out on the results from all three questionnaires.

This firstly analyses the correlation between pre and post scores for each participant. We would expect that there would be a relatively high level of correlation as if for example a participant answered highly for the autonomy subscale in the pre questionnaire, we would also expect them to answer relatively highly for that subscale in the post questionnaire.

It also computes whether the pre and post mean scores for each participant are different enough to be significant and not down to chance. For a result to be statistically significant this difference in the two mean scores should have a significance rating of 0.05 or below. In other words there should be a 5% chance or less that such a change in mean scores could have been obtained by chance.

Wellbeing Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	9	44.56	54.67	10.11	0.746	**0.021**	2.788	8	**0.024**
Environmental Mastery	9	36.00	54.44	18.44	0.583	**0.099**	3.590	8	**0.007**
Personal Growth	9	48.67	65.44	16.77	0.086	**0.825**	3.354	8	**0.010**
Positive Relationships with others	9	47.22	59.67	12.45	0.673	**0.047**	2.665	8	**0.029**
Purpose in Life	9	38.22	57.78	19.56	0.384	**0.308**	3.849	8	**0.005**
Self Acceptance	9	34.00	43.89	9.89	0.599	**0.088**	1.717	8	**0.124**
Wellbeing Overall	9	41.44	55.98	14.54	0.480	**0.191**	3.184	8	**0.013**

As you can see from the table above, for the wellbeing scale, only the subscales autonomy and positive relationships with others had a significant level of correlation (<0.05) between pre and post answers.

With the Wellbeing Scale we would hope to find that a participant's wellbeing had increased over the course of the project. As the above table shows in all cases wellbeing increased between pre and post questionnaires.

The t test looks at this difference between pre and post means and found that for all subscales except for Self Acceptance there was a less than 5 % chance that such results could have been down to chance. This also applies for the difference in scores for wellbeing overall. Therefore in almost all cases the increase in wellbeing scores between the pre and post questionnaires was large enough to be classed as statistically significant. The only exception to this was the Self Acceptance subscale where there was a 12% chance that such an increase in scores could have been down to chance.

As multiple t tests have been performed on the data, due to testing all subscales and the overall sum of subscales, there is a greater risk that some scores could have been achieved by chance. For this reason it is necessary to carry out a more stringent level of statistical analysis. The overall scores can remain being tested at <0.05 but the subscales, as they are further t tests carried out within the overall score, require the bonferroni method of correction. This involves dividing 0.05 by the number of subscales being tested. The new figure for wellbeing is therefore <0.0083. For a subscale to be statistically significant to the bonferroni level their significance rating must be less than 0.0083 meaning there is a less than 0.8% chance that such results could be achieved by chance. Using this more stringent level of analysis, only two subscales, environmental mastery and purpose in life are found to be statistically significant. The other four subscales have a greater than 0.8% chance they were achieved by chance so at bonferroni level they are not classed as statistically significant.

General Health Questionnaire:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Somatic Symptoms	9	9.33	4.67	-4.66	0.490	**0.180**	3.150	8	**0.014**
Anxiety and Insomnia	9	13.67	5.33	-8.34	0.462	**0.211**	3.706	8	**0.006**
Social Dysfunction	9	12.11	3.11	-9.00	0.028	**0.943**	4.351	8	**0.002**
Severe Depression	9	9.89	4.44	-4.45	0.748	**0.020**	3.583	8	**0.007**
Overall GHQ	9	11.25	4.39	-6.86	0.528	**0.144**	4.444	8	**0.002**

With the correlation score we would hope that the significance rating would be below 0.05 showing there is a less than 5% chance that such a score could have been achieved by chance. As the table above shows, for the GHQ in all cases except for the severe depression subscale scores are above 0.05. Therefore, only that one subscale has a significant level of correlation.

We would hope that GHQ scores would decrease from pre to post questionnaires. This happened in all cases showing an improvement in health. The t test explores this difference in means further and found that all significance scores are below 0.05 meaning in all GHQ subscales and the GHQ overall score there is a less than 5% chance scores were obtained by chance and they are therefore all statistically significant.

As with the wellbeing questionnaire, as multiple t tests have been performed on the data within the overall score there is a greater risk that some results could have been achieved by chance. The bonferroni method of correction is therefore also applied to the GHQ subscales. In this instance 0.05 is divided by just 4 subscales giving a new more stringent level of analysis at <0.0125 meaning scores are significant if they have a less than 1% chance of being achieved by chance. At this higher level of analysis the subscales anxiety and insomnia, social dysfunction and sever depression are all still statistically significant. The other subscale, somatic symptoms has just over a 1% chance of being achieved by chance so is not classed as statistically significant at this level, although it is very close.

Hospital Anxiety and Depression Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Anxiety	8	13.00	7.50	-5.50	0.898	**0.002**	4.545	7	**0.003**
Depression	8	13.00	7.38	-5.62	0.687	**0.060**	3.585	7	**0.009**
Overall HADS	8	13.00	7.44	-5.56	0.714	**0.047**	4.190	7	**0.004**

Again, with the correlation score we would hope that the significance rating would be below 0.05 showing there is a less than 5% chance that such a score could have been achieved by chance. As the table above shows, for the HADS Anxiety and the overall score have significant correlations but the depression subscales is just out with a 6% chance that such correlation could be due to chance.

We would hope that HADS scores would decrease from pre to post questionnaires. This happened in all cases showing an improvement in anxiety and depression. The t test explores this difference in means further and found that all significance scores are below 0.05 meaning in all HADS subscales and the HADS overall score there is a less than 5% chance scores were obtained by chance and they are therefore all statistically significant.

Again, due to the multiple t tests performed and the increased chance that scores could have been reached by chance, the bonferroni method of correction is also applied to the HAD Scale. As there are only two subscales, 0.05 is simply divided by two to give a new significance rating of 0.025. Both the anxiety and depression subscales remain significant even at this more stringent level.

Data Analysis on Participant Data without Missing Values

Data analysis was firstly done on data which had some missing values. Any missing answers to questionnaires were left which resulted in some participants being discounted from the data analysis as SPSS automatically leaves out any scales which have missing values. The results from this data analysis are below.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	0.863	0.759
	Environmental Mastery	0.887	0.896
	Personal Growth	0.612	0.296
	Positive Relationships	0.823	0.940
	Purpose in Life	0.856	0.725
	Self Acceptance	0.963	0.914
GHQ	Somatic	0.757	0.870
	Anxiety & Insomnia	0.913	0.951
	Social Dysfunction	0.920	0.889
	Severe Depression	0.915	0.915
HAD	Anxiety	0.823	0.930
	Depression	0.856	0.877

Paired Sample T Test

Wellbeing Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	8	44.25	51.13	6.88	0.976	**0.000**	3.704	7	**0.008**
Environmental Mastery	8	37.13	51.00	13.87	0.892	**0.003**	5.212	7	**0.001**
Personal Growth	7	46.71	62.29	15.58	0.565	**0.186**	5.849	6	**0.001**
Positive Relationships with others	7	45.43	56.43	11.00	0.918	**0.004**	3.214	6	**0.018**
Purpose in Life	7	38.57	53.00	14.43	0.620	**0.137**	3.142	6	**0.020**
Self Acceptance	6	37.33	41.17	3.84	0.883	**0.020**	0.908	5	**0.406**
Wellbeing Overall	5	41.27	51.97	10.70	0.819	**0.090**	4.762	4	**0.009**

General Health Questionnaire:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Somatic Symptoms	9	9.33	4.67	-4.66	0.490	**0.180**	3.150	8	**0.014**
Anxiety and Insomnia	9	13.67	5.33	-8.34	0.462	**0.211**	3.706	8	**0.006**
Social Dysfunction	9	12.11	3.11	-9.00	0.028	**0.943**	4.351	8	**0.002**
Severe Depression	9	9.89	4.44	-5.45	0.748	**0.020**	3.583	8	**0.007**
Overall GHQ	8	14.69	4.53	-10.16	0.526	**0.180**	6.676	7	**0.000**

Hospital Anxiety and Depression Scale:

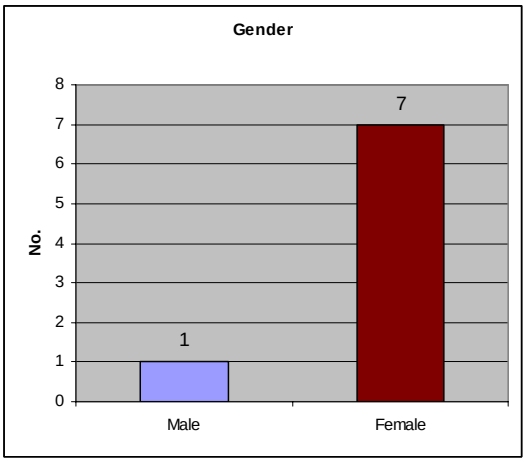
	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Anxiety	8	13.00	7.50	-5.50	0.898	**0.002**	4.545	7	**0.003**
Depression	8	13.00	7.38	-5.62	0.687	**0.060**	3.585	7	**0.009**
Overall HADS	8	13.00	7.44	-5.56	0.714	**0.047**	4.190	7	**0.004**

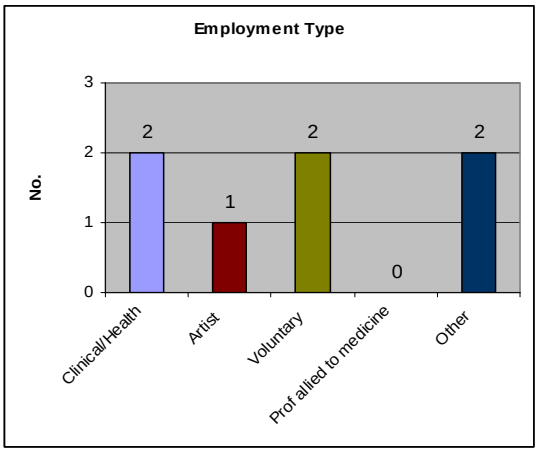
Blue SCI Staff Data

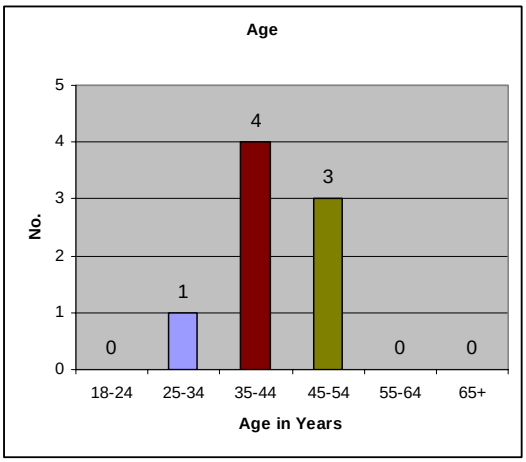
For Staff, Ryff's Scale of Psychological Wellbeing was used again, along with the Warr, Cook and Wall Work and Life Attitudes Scale.

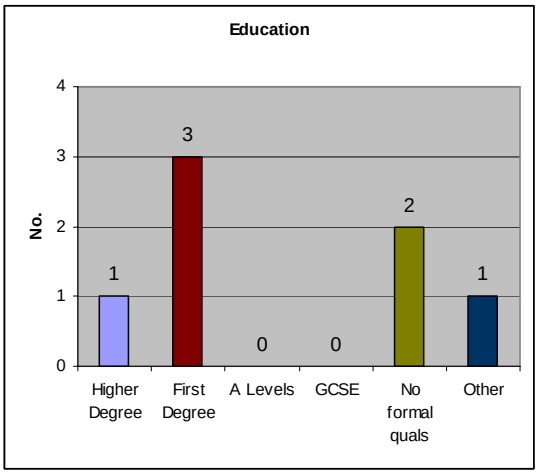
8 members of staff completed both the pre and post questionnaire packs. However, two participants missed out the Work and Life Attitudes scale so they will therefore have to be discounted from that scale.

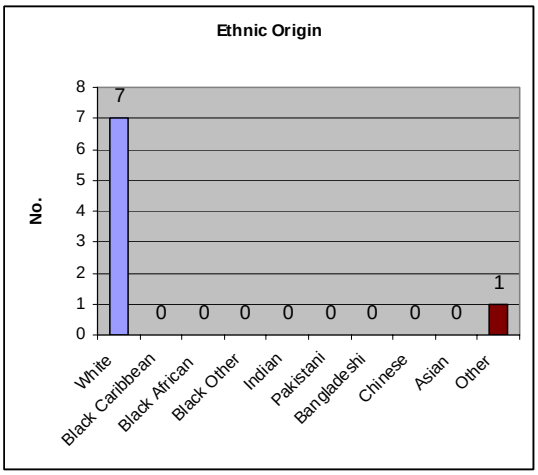
Demographics

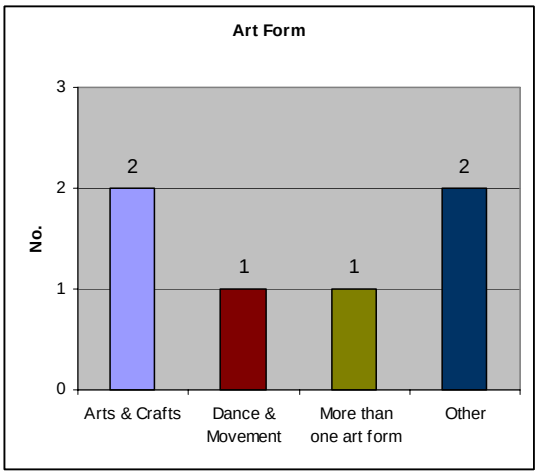












Blue SCI Staff Data Analysis

Cronbachs Alpha Reliability Test:

This test was also used on both Ryffs (2004) Scale of Psychological Wellbeing and the Warr, Cook and Wall Work and Life Attitudes Survey. With this test a reliability score of 0.7 or higher is considered acceptable.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	0.936	0.859
	Environmental Mastery	0.955	0.955
	Personal Growth	0.954	0.918
	Positive Relationships	0.957	0.891
	Purpose in Life	0.973	0.962
	Self Acceptance	0.979	0.968
Work and Life Attitudes	Work Involvement	0.524	0.434
	Intrinsic Job Motivation	0.458	-0.769
	Job Satisfaction	0.950	0.925
	Perceived Intrinsic Job Characteristics	0.698	0.873
	Higher Order Need Strength	0.937	0.936
	Self Rated Anxiety	0.401	0.811
	Life Satisfaction	0.934	0.962
	Happiness	n/a	n/a

All subscales for the wellbeing questionnaire have significant levels of correlation over 0.05. Correlation significance scores for the Work and Life Attitudes Survey are slightly more mixed with about 50% being significant and 50% having correlations with a greater than 5% chance that they could have been achieved by chance.

Paired Samples t test:

A paired samples t test was carried out on the results from both staff questionnaires.

This firstly analyses the correlation between pre and post scores for each participant. We would expect that there would be a relatively high level of correlation as if for example a participant answered highly for the autonomy subscale in the pre questionnaire, we would also expect them to answer relatively highly for that subscale in the post questionnaire.

It also computes whether the pre and post mean scores for each participant are different enough to be significant and not down to chance. For a result to be statistically significant this difference in the two mean scores should have a significance rating of 0.05 or below. In other words there should be a 5% chance or less that such a change in mean scores could have been obtained by chance.

Wellbeing Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	8	51.63	56.38	4.75	0.866	**0.005**	1.696	7	**0.134**
Environmental Mastery	8	51.50	59.88	8.38	0.858	**0.006**	2.339	7	**0.052**
Personal Growth	8	60.00	60.00	0.00	**n\a as no difference between pre and post**				
Positive Relationships with others	8	62.00	71.75	9.75	0.974	**0.000**	3.353	7	**0.012**
Purpose in Life	8	56.50	64.63	8.13	0.897	**0.003**	2.383	7	**0.049**
Self Acceptance	8	49.38	58.25	8.87	0.923	**0.001**	2.765	7	**0.028**
Wellbeing Overall	8	55.17	61.81	6.64	0.942	**0.000**	3.073	7	**0.018**

As you can see from the table above, for the staff wellbeing scale, all subscales and the overall wellbeing score had a significant level of correlation (<0.05) between pre and post answers.

With the Wellbeing Scale we would hope to find that a participant's wellbeing had increased over the course of the project. As the above table shows in all cases wellbeing increased between pre and post questionnaires.

The t test looks at this difference between pre and post means and found that for all subscales except for Autonomy and Environmental Mastery there was a less than 5% chance that such results could have been down to chance. Therefore in almost all cases the increase in wellbeing scores between the pre and post questionnaires was large enough to be classed as statistically significant. The only exception to this was the Autonomy subscale where there was a 13% chance that such an increase in scores could have been down to chance and the Environmental Mastery subscale where there was a 5% chance. The latter is therefore only just outside the boundary to be classed as statistically significant.

As with participant data, as multiple t tests have been performed on the data, due to testing all subscales and the overall sum of subscales, there is a greater risk that some scores could have been achieved by chance. For this reason it is necessary to carry out a more stringent level of statistical analysis. The overall scores can remain being tested at <0.05 but the subscales, as they are further t tests carried out within the overall score, require the bonferroni method of correction. This involves dividing 0.05 by the number of subscales being tested. The new figure for wellbeing is therefore <0.0083. For a subscale to be statistically significant to the bonferroni level their significance rating must be less than 0.0083 meaning there is a less than 0.8% chance that such results could be achieved by chance. Despite the fact some subscales were significant at the <0.05 level, when using the bonferroni correction level of <0.0083, none of the subscales are found to be statistically significant.

Work and Life Attitudes Survey:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Work Involvement	6	32.17	36.00	3.83	0.590	**0.218**	2.307	5	**0.069**
Intrinsic Job Motivation	6	38.33	37.00	-1.33	0.119	**0.822**	0.705	5	**0.512**
Job Satisfaction	6	68.50	92.83	24.33	0.415	**0.413**	1.838	5	**0.125**
Perceived Intrinsic Job Characteristics	6	33.00	41.67	8.67	0.103	**0.846**	2.484	5	**0.056**
Higher Order Need Strength	6	36.67	36.83	0.16	0.944	**0.005**	0.176	5	**0.867**
Self Rated Anxiety	6	22.83	18.50	4.33	0.813	**0.049**	2.381	5	**0.063**
Life Satisfaction	6	61.33	90.00	28.67	0.198	**0.707**	2.752	5	**0.040**
Happiness	6	1.5	2.5	1.00	0.354	**0.390**	3.742	7	**0.007**
Overall W & L Score	6	36.81	44.42	7.61	0.122	**0.818**	2.440	5	**0.059**

With the correlation score we would hope that the significance rating would be below 0.05 showing there is a less than 5% chance that such a score could have been achieved by chance. As the table above shows, only about half the subscales for the Work and Life Attitudes Survey have a subscale score above 0.05. Therefore, only half the subscales have a significant level of correlation.

We would hope that Work and Life Attitude scores would increase from pre to post questionnaires. This happened in all cases except for Intrinsic Job Motivation showing most subscales showed an improvement in job satisfaction. The overall Work and Life Attitudes score showed an overall improvement. The t test explores this difference in means further and found that only a couple of subscales significance scores are below 0.05 meaning most subscales and the overall score have a greater than 5% chance that they were achieved by chance and are therefore not classed as statistically significant.

The bonferroni method of correction is also required for the Work and Life Attitudes Survey as again, multiple t tests have been carried out resulting in a greater risk that scores could have been achieved through chance alone. In this instance 0.05 is divided by 8 subscales giving a new significance rating of 0.00625. For a subscale to be statistically significant to the bonferroni level their significance rating must be less than 0.00625 meaning there is a less than 0.6% chance that such results could be achieved by chance. Although a couple of subscales were significant at the <0.05 level, none are found to be significant when using this higher level of analysis.

Blue SCI Data Analysis on Staff Data without Missing Values

Data analysis was firstly done on data which had some missing values. Any missing answers to questionnaires were left which resulted in some participants being discounted from the data analysis as SPSS automatically leaves out any scales which have missing values. The results from this data analysis are below.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	0.936	0.864
	Environmental Mastery	0.964	0.947
	Personal Growth	0.954	0.918
	Positive Relationships	0.958	0.877
	Purpose in Life	0.973	0.962
	Self Acceptance	0.984	0.968
Work and Life Attitudes	Work Involvement	0.526	0.434
	Intrinsic Job Motivation	0.458	-0.769
	Job Satisfaction	0.950	0.925
	Perceived Intrinsic Job Characteristics	0.698	0.873
	Higher Order Need Strength	0.937	0.936
	Self Rated Anxiety	0.401	0.811
	Life Satisfaction	0.947	0.967
	Happiness	n/a	n/a

Paired Sample T Test

Wellbeing Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	7	51.71	57.71	6.00	0.903	**0.005**	2.073	6	**0.084**
Environmental Mastery	5	50.20	57.20	7.00	0.910	**0.032**	1.642	4	**0.176**
Personal Growth	8	60.00	60.00	0.00	**n\a as no difference between pre and post**				
Positive Relationships with others	7	65.14	73.86	8.72	0.970	**0.000**	2.778	6	**0.032**
Purpose in Life	8	56.50	64.63	8.13	0.897	**0.003**	2.383	7	**0.049**
Self Acceptance	7	51.71	61.29	9.58	0.921	**0.003**	2.646	6	**0.038**
Wellbeing Overall	4	58.38	63.38	5.00	0.997	**0.003**	6.189	3	**0.008**

Work and Life Attitudes Survey:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Work Involvement	5	33.40	36.20	2.80	0.662	**0.223**	1.757	4	**0.154**
Intrinsic Job Motivation	8	21.63	37.13	15.50	0.095	**0.822**	5.187	7	**0.001**
Job Satisfaction	6	68.50	92.83	24.33	-0.415	**0.413**	1.838	5	**0.125**
Perceived Intrinsic Job Characteristics	6	33.00	41.67	8.67	0.103	**0.846**	2.484	5	**0.056**
Higher Order Need Strength	6	36.67	36.83	0.16	0.944	**0.005**	0.176	5	**0.867**
Self Rated Anxiety	6	22.83	18.50	-4.33	0.813	**0.049**	2.381	5	**0.063**
Life Satisfaction	5	61.40	95.40	34.00	0.262	**0.670**	3.102	4	**0.036**
Happiness	8	1.50	2.50	1.00	0.354	**0.390**	3.742	7	**0.007**
Overall W & L Score	4	34.56	45.78	11.22	0.238	**0.762**	2.920	3	**0.062**

Alder Hey Quantitative Findings

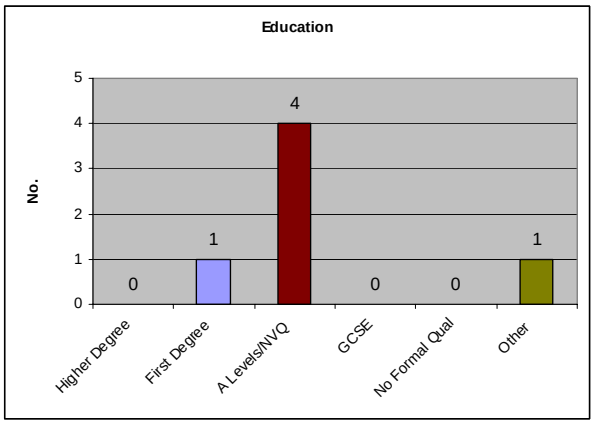
For the quantitative side of Alder Hey's evaluation, two samples of participants were used. Questionnaires were given to 25 play specialists working with the arts at the hospital, as well as 25 members of staff not connected to the arts. These two sets of figures have had to be analysed separated so I will go over each separately, starting with the play specialists.

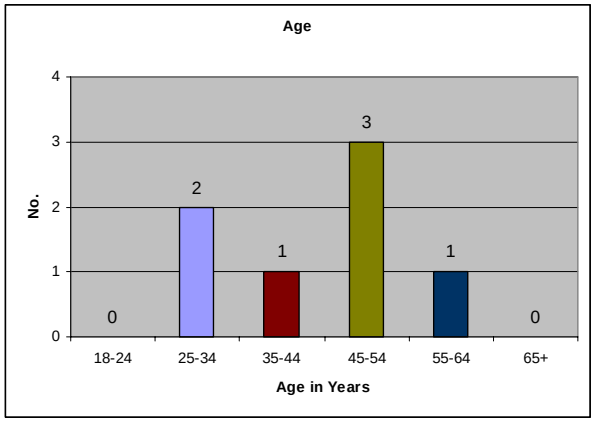
For both play specialists and their colleagues, Ryff's Scale of Psychological Wellbeing and the Warr Cook and Wall Work and Life Attitudes scales were used.

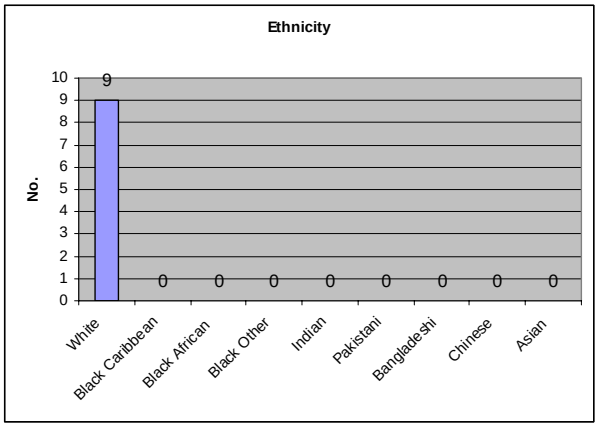
Alder Hey Play Specialist Data

15 play specialists completed the pre questionnaires but 8 dropped out meaning there were 7 play specialists who completed both the pre and post questionnaire packs and whose data could be analysed. One participant missed out the self rated anxiety subscale on the Work and Life Attitudes scale so the overall number for this is 6.

Demographics







The demographic information shows that all the play specialists who responded were female and of white ethnic origin. There was a spread of age ranges with most people coming from the 45-54 bracket. One participant missed out the question on qualifications but of those who answered the majority had A Levels or NVQ levels of qualification.

Alder Hey Play Specialist Data Analysis

Cronbachs Alpha Reliability Test:

This test was used on both Questionnaires. It is used to check that participants answered questions consistently and therefore reliably. For example if a participant scored highly on the autonomy subsection of the pre Wellbeing scale, we would expect them to score relatively highly on the other five wellbeing subscales. This test is a good way of ensuring participants answered honestly as, for

example, if a participant guessed at their answers, scores would jump from high to low and this would produce a low reliability score. A reliability score of 0.7 or higher is considered acceptable.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	-0.004	0.265
	Environmental Mastery	0.686	0.423
	Personal Growth	0.721	0.567
	Positive Relationships	0.570	0.017
	Purpose in Life	0.681	-0.010
	Self Acceptance	0.296	0.131
Work and Life Attitudes	Work Involvement	0.374	-1.333
	Intrinsic Job Motivation	0.722	0.839
	Job Satisfaction	0.832	0.825
	Perceived Intrinsic Job Characteristics	0.866	0.876
	Higher Order Need Strength	0.689	0.856
	Self Rated Anxiety	0.856	0.875
	Life Satisfaction	0.776	-1.333
	Happiness	n/a	0.839

As the above tables show for Wellbeing, almost all subscales have a reliability score below 0.7 meaning most scores are not statistically reliable. For the Work and Life Attitudes scale it is only the Work Involvement subscale and the pre Higher Order Need Strength subscales which are not classed as reliable. The other scores are all above 0.7.

Paired Samples t test:

A paired samples t test was carried out on the results from all questionnaires.

This firstly analyses the correlation between pre and post scores for each participant. We would expect that there would be a relatively high level of correlation as if for example a participant answered highly for the autonomy subscale in the pre questionnaire, we would also expect them to answer relatively highly for that subscale in the post questionnaire.

It also computes whether the pre and post mean scores for each participant are different enough to be significant and not down to chance. For a result to be statistically significant this difference in the two mean scores should have a significance rating of 0.05 or below. In other words there should be a 5% chance or less that such a change in mean scores could have been obtained by chance.

Wellbeing Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	7	57.00	51.29	-5.71	0.496	**0.258**	2.796	6	**0.031**
Environmental Mastery	7	65.00	54.86	-10.14	0.644	**0.119**	5.578	6	**0.001**
Personal Growth	7	72.43	53.29	-19.14	0.502	**0.251**	9.174	6	**0.000**
Positive Relationships with others	7	73.71	49.86	-23.85	-0.292	**0.525**	8.552	6	**0.000**
Purpose in Life	7	69.14	48.71	-20.43	-0.313	**0.494**	6.243	6	**0.001**
Self Acceptance	7	66.57	49.29	-17.28	-0.032	**0.945**	6.702	6	**0.001**
Wellbeing Overall	7	67.31	51.21	-16.10	0.139	**0.766**	8.994	6	**0.000**

As you can see from the table above, for the wellbeing scale, none of the wellbeing subscales had a significant level of correlation (<0.05) between pre and post answers.

With the Wellbeing Scale we would hope to find that a participant's wellbeing had increased over the course of the project. As the above table shows in all cases wellbeing decreased between pre and post questionnaires. Participants wellbeing was therefore reduced over the study period.

The t test looks at this difference between pre and post means and found that for all subscales and the overall wellbeing score this decrease in wellbeing was large enough to be statistically significant.

As multiple t tests have been performed on the data, due to testing all subscales and the overall sum of subscales, there is a greater risk that some scores could have been achieved by chance. For this reason it is necessary to carry out a more stringent level of statistical analysis. The overall scores can remain being tested at <0.05 but the subscales, as they are further t tests carried out within the overall score, require the bonferroni method of correction. This involves dividing 0.05 by the number of subscales being tested. The new figure for wellbeing is therefore <0.0083. For a subscale to be statistically significant to the bonferroni level their significance rating must be less than 0.0083 meaning there is a less than 0.8% chance that such results could be achieved by chance. As the above table shows all subscales except for autonomy are significant to this level. This means there is a highly significant decrease in wellbeing even when tested to a particularly stringent level.

Work and Life Attitudes Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Work Involvement	7	30.71	33.14	2.43	0.589	**0.164**	2.072	6	**0.084**
Intrinsic Job Motivation	7	36.00	36.71	0.71	0.915	**0.004**	0.956	6	**0.376**
Job Satisfaction	7	76.00	78.00	2.00	0.819	**0.024**	0.716	6	**0.501**
Perceived Intrinsic Job Characteristics	7	33.14	33.86	0.72	0.882	**0.009**	0.564	6	**0.593**
Higher Order Need Strength	7	37.86	38.57	0.71	0.713	**0.072**	0.737	6	**0.489**
Self Rated Anxiety	6	22.67	23.00	0.33	0.576	**0.232**	0.113	6	**0.915**
Life Satisfaction	7	77.43	74.43	-3.00	0.614	**0.142**	1.033	6	**0.341**
Happiness	7	2.29	2.29	0.00	**n/a as no difference between pre and post**				
Overall Work and Life Attitudes Score	6	39.21	39.98	0.77	0.742	**0.091**	0.747	6	**0.489**

With the correlation score we would hope that the significance rating would be below 0.05 showing there is a less than 5% chance that such a score could have been achieved by chance. As the table above shows, for Work and Life Attitudes, Intrinsic Job Motivation, Job Satisfaction and Perceived Intrinsic Job Characteristics had significant levels of correlation with subscale scores above 0.05. The remaining subscales did not show significant levels of correlation.

We would hope that Work and Life Attitudes scores would increase from pre to post questionnaires. This happened in all cases except life satisfaction, showing a general improvement in work and life attitudes. The t test explores this difference in means further and found that 3 subscales that all significance scores are above 0.05 meaning in all Work and Life Attitudes subscales and the overall score there is a greater than 5% chance scores were obtained by chance and they are therefore none are statistically significant.

The bonferroni method of correction is also required for the Work and Life Attitudes Survey as again, multiple t tests have been carried out resulting in a greater risk that scores could have been achieved through chance alone. In this instance 0.05 is divided by 8 subscales giving a new significance rating of 0.00625. For a subscale to be statistically significant to the bonferroni level their significance rating must be less than 0.00625 meaning there is a less than 0.6% chance that such results could be achieved by chance. As no subscales were found to be significant at the <0.05 level, none are found to be significant when using this higher level of analysis.

Alder Hey Data Analysis on Play Specialist Data without Missing Values

Data analysis was firstly done on data which had some missing values. Any missing answers to questionnaires were left which resulted in some participants being discounted from the data analysis as SPSS automatically leaves out any scales which have missing values. The results from this data analysis are below for comparison purposes.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	-0.004	0.427
	Environmental Mastery	0.686	0.423
	Personal Growth	0.565	0.567
	Positive Relationships	0.593	0.017
	Purpose in Life	0.579	0.048
	Self Acceptance	0.296	0.131
Work and Life Attitudes	Work Involvement	0.163	-1.333
	Intrinsic Job Motivation	0.722	0.839
	Job Satisfaction	0.832	0.825
	Perceived Intrinsic Job Characteristics	0.866	0.876
	Higher Order Need Strength	0.689	0.856
	Self Rated Anxiety	0.856	0.875
	Life Satisfaction	0.804	0.770
	Happiness	n/a	n/a

PairedSample T Test

Wellbeing Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	6	58.00	51.50	-6.50	0.517	**0.293**	2.912	5	**0.033**
Environmental Mastery	7	65.00	54.86	-10.14	0.644	**0.119**	5.578	6	**0.001**
Personal Growth	5	69.80	53.40	-16.40	0.850	**0.068**	12.729	4	**0.000**
Positive Relationships with others	6	72.83	48.67	-24.16	0.385	**0.439**	7.244	5	**0.001**
Purpose in Life	5	65.60	49.60	-16.00	0.195	**0.754**	6.950	4	**0.002**
Self Acceptance	7	66.57	49.29	-17.28	0.032	**0.945**	6.702	6	**0.001**
Wellbeing Overall	4	65.71	51.00	-14.71	0.142	**0.858**	6.478	3	**0.007**

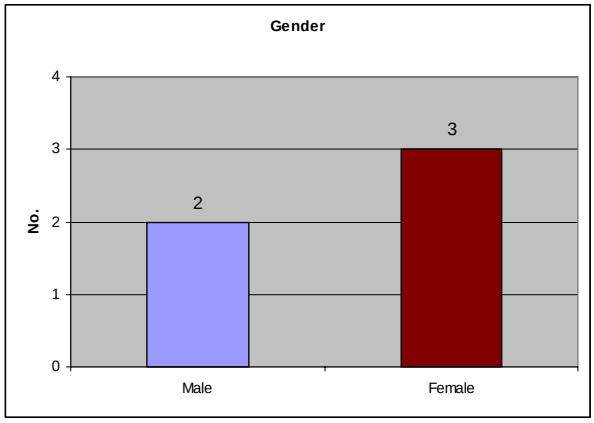
Work and Life Attitudes Scale:

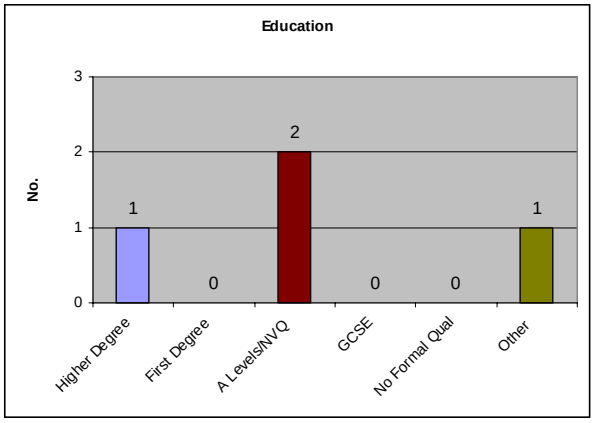
	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Work Involvement	5	32.00	33.80	1.80	0.387	**0.519**	1.230	4	**0.286**
Intrinsic Job Motivation	7	36.00	36.71	0.71	0.915	**0.004**	0.956	6	**0.376**
Job Satisfaction	7	76.00	78.00	2.00	0.819	**0.024**	0.716	6	**0.501**
Perceived Intrinsic Job Characteristics	7	33.14	33.86	0.72	0.882	**0.009**	0.564	6	**0.593**
Higher Order Need Strength	7	37.86	38.57	0.71	0.713	**0.072**	0.737	6	**0.489**
Self Rated Anxiety	6	22.67	23.00	0.33	0.576	**0.232**	0.113	5	**0.915**
Life Satisfaction	5	78.60	78.00	-0.60	0.682	**0.204**	0.199	4	**0.852**
Happiness	6	2.33	2.33	0.00	**n/a as no difference between pre and post**				
Overall Work and Life Attitudes Score	4	38.66	39.25	0.59	0.145	**0.855**	0.368	3	**0.737**

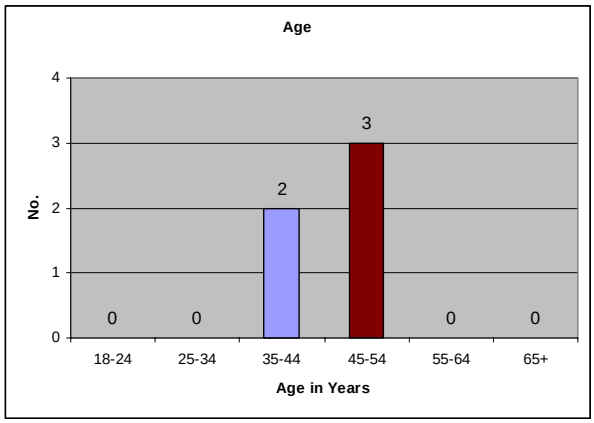
Alder Hey Colleague Data

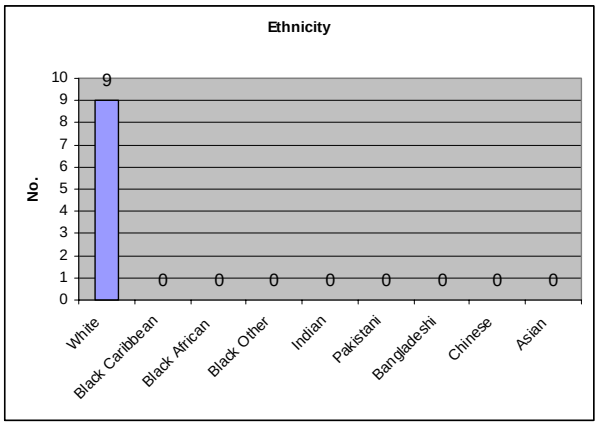
Each Play Specialist also gave a pre and post questionnaire pack to one colleague who didn't work with the arts project. For colleagues Ryff's Scale of Psychological Wellbeing was used again, along with the Warr, Cook and Wall Work and Life Attitudes Scale.
14 members of staff completed the pre questionnaire pack but 9 dropped out over the period of study meaning only 5 members of staff completed both the pre and post questionnaire packs.

Demographics









Alder Hey Colleague Data Analysis

Cronbachs Alpha Reliability Test:

This test was also used on both Ryffs (2004) Scale of Psychological Wellbeing and the Warr, Cook and Wall Work and Life Attitudes Survey. With this test a reliability score of 0.7 or higher is considered acceptable.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	0.830	-0.149
	Environmental Mastery	0.892	0.631
	Personal Growth	0.020	0.542
	Positive Relationships	0.879	0.767
	Purpose in Life	0.800	0.408
	Self Acceptance	0.875	0.383
Work and Life Attitudes	Work Involvement	0.760	0.798
	Intrinsic Job Motivation	0.806	0.903
	Job Satisfaction	0.963	0.853
	Perceived Intrinsic Job Characteristics	0.970	0.912
	Higher Order Need Strength	0.929	0.976
	Self Rated Anxiety	0.787	0.847
	Life Satisfaction	0.902	0.892
	Happiness	n/a	n/a

All pre subscales for the wellbeing questionnaire except for personal growth have significant levels of correlation over 0.05. With the post subscales, positive relationships is the only one to have a significance level over 0.05, all others are not classed as statistically significant. Correlation significance scores for the Work and Life Attitudes Survey are all significant as they are all above 0.7.

Paired Samples t test:

A paired samples t test was carried out on the results from both colleagues questionnaires.

This firstly analyses the correlation between pre and post scores for each participant. We would expect that there would be a relatively high level of correlation as if for example a participant answered highly for the autonomy subscale in the pre questionnaire, we would also expect them to answer relatively highly for that subscale in the post questionnaire.

It also computes whether the pre and post mean scores for each participant are different enough to be significant and not down to chance. For a result to be statistically significant this difference in the two mean scores should have a significance rating of 0.05 or below. In other words there should be a 5% chance or less that such a change in mean scores could have been obtained by chance.

Wellbeing Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	5	63.60	52.20	-11.40	-0.354	0.559	1.995	4	0.117
Environmental Mastery	5	64.40	54.80	-9.60	-0.259	0.673	1.392	4	0.236
Personal Growth	5	69.00	55.40	-13.60	-0.345	0.570	4.000	4	0.016
Positive Relationships with others	5	69.20	52.60	-16.60	-0.911	0.032	1.724	4	0.160
Purpose in Life	5	65.40	50.20	-15.20	0.444	0.454	3.760	4	0.020
Self Acceptance	5	63.80	52.00	-11.80	-0.593	0.292	1.607	4	0.183
Wellbeing Overall	5	65.90	52.87	-13.03	-0.557	0.330	2.262	4	0.086

As you can see from the table above, for the staff wellbeing scale, only the Positive Relationships with Other subscale had a significant level of correlation (<0.05) between pre and post answers.

With the Wellbeing Scale we would hope to find that a participant's wellbeing had increased over the course of the project. As the above table shows in all cases wellbeing decreased between pre and post questionnaires showing a reduction in wellbeing over the period of study.

The t test looks at this difference between pre and post means and found that for all subscales except for Personal Growth and Purpose in Life, there was a greater than 5% chance that such results could have been down to chance. Therefore in most cases the decrease in wellbeing scores between the pre and post questionnaires was large enough to be classed as statistically significant.

As with play specialist data, multiple t tests have been performed, due to testing all subscales and the overall sum of subscales, resulting in a greater risk that some scores could have been achieved by chance. For this reason it is necessary to carry out a more stringent level of statistical analysis. The overall scores can remain being tested at <0.05 but the subscales, as they are further t tests carried out within the overall score, require the bonferroni method of correction. This involves dividing 0.05 by the number of subscales being tested. The new figure for wellbeing is therefore <0.0083. For a subscale to be statistically significant to the bonferroni level their significance rating must be less than 0.0083 meaning there is a less than 0.8% chance that such results could be achieved by chance. A couple of results were significant at the 0.05 level but none are significant when using the bonferroni higher level of analysis.

Work and Life Attitudes Survey:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. (2 tailed)
Work Involvement	5	25.60	28.40	2.80	0.951	**0.013**	2.256	4	**0.087**
Intrinsic Job Motivation	5	34.20	34.40	0.20	0.570	**0.315**	0.082	4	**0.939**
Job Satisfaction	5	79.00	81.40	2.40	0.632	**0.253**	0.447	4	**0.678**
Perceived Intrinsic Job Characteristics	5	32.80	39.40	6.60	0.189	**0.760**	1.456	4	**0.219**
Higher Order Need Strength	5	31.60	31.80	0.20	0.842	**0.074**	0.125	4	**0.906**
Self Rated Anxiety	5	22.40	21.60	-0.80	0.535	**0.353**	0.244	4	**0.819**
Life Satisfaction	5	78.00	81.40	3.40	0.511	**0.379**	0.656	4	**0.548**
Happiness	5	2.40	2.40	0.00	0.167	**0.789**	0.000	4	**1.000**
Overall W & L Score	5	38.25	40.10	1.85	0.895	**0.040**	0.945	4	**0.398**

With the correlation score we would hope that the significance rating would be below 0.05 showing there is a less than 5% chance that such a score could have been achieved by chance. As the table above shows, Work Involvement and the Overall Work and Life Attitudes score have a significant correlation score of <0.05. The remaining subscales therefore do not have significant levels of correlation as there is a greater than 5% chance that such correlation could have been achieved by chance.

We would hope that Work and Life Attitude scores would increase from pre to post questionnaires. This happened in all cases except for Self Rated Anxiety showing most subscales showed an improvement in job satisfaction. The Overall Work and Life Attitudes score showed an overall improvement. The t test explores this difference in means further and found that no subscales significance scores are below 0.05 meaning all subscales and the overall score have a greater than 5% chance that they were achieved by chance and are therefore not classed as statistically significant.

As with the wellbeing data, as multiple t tests have been carried out, there is a greater chance that some scores could have been achieved through chance alone. In this instance 0.05 is divided by 8 subscales giving a new significance rating of 0.00625. For a subscale to be statistically significant to the bonferroni level their significance rating must be less than 0.00625 meaning there is a less than 0.6% chance that such results could be achieved by chance. As no subscales were significant at the <0.05 level, equally none are found to be significant when using this higher level of analysis.

Alder Hey Data Analysis on Colleague Data without Missing Values

Data analysis was firstly done on data which had some missing values. Any missing answers to questionnaires were left which resulted in some participants being discounted from the data analysis as SPSS automatically leaves out any scales which have missing values. The results from this data analysis are below.

	Subscale	Pre Reliability Score	Post Reliability Score
Wellbeing	Autonomy	0.830	-0.149
	Environmental Mastery	0.892	0.631
	Personal Growth	0.020	0.594
	Positive Relationships	0.879	0.767
	Purpose in Life	0.800	0.408
	Self Acceptance	0.875	0.383
Work and Life Attitudes	Work Involvement	0.706	0.798
	Intrinsic Job Motivation	0.806	0.903
	Job Satisfaction	0.963	0.853
	Perceived Intrinsic Job Characteristics	0.970	0.928
	Higher Order Need Strength	0.929	0.976
	Self Rated Anxiety	0.787	0.847
	Life Satisfaction	0.861	0.675
	Happiness	n/a	n/a

Paired Samples T Test

Wellbeing Scale:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Autonomy	5	63.60	52.20	-11.40	0.354	0.559	1.995	4	0.117
Environmental Mastery	5	64.40	54.80	-9.60	0.259	0.673	1.392	4	0.236
Personal Growth	4	68.50	54.75	-13.75	0.457	0.543	3.136	3	0.052
Positive Relationships with others	5	69.20	52.60	-16.60	0.911	0.032	1.724	4	0.160
Purpose in Life	5	65.40	50.20	-15.20	0.444	0.454	3.760	4	0.020
Self Acceptance	5	63.80	52.00	-11.80	0.593	0.292	1.607	4	0.183
Wellbeing Overall	4	62.83	52.83	-10.00	0.813	0.187	1.581	3	0.212

Work and Life Attitudes Survey:

	N	Pre mean	Post mean	Diff	Corr Score	Corr Sig.	t	df	Sig. Val
Work Involvement	5	25.60	28.40	2.80	0.951	0.013	2.256	4	0.087
Intrinsic Job Motivation	5	34.20	34.40	0.20	0.570	0.315	0.082	4	0.939
Job Satisfaction	5	79.00	81.40	2.40	0.632	0.253	0.447	4	0.678
Perceived Intrinsic Job Characteristics	5	32.80	39.40	6.60	0.189	0.760	1.456	4	0.219
Higher Order Need Strength	5	31.60	31.80	0.20	0.842	0.074	0.125	4	0.906
Self Rated Anxiety	5	22.40	21.60	-0.80	0.535	0.353	0.244	4	0.819
Life Satisfaction	3	69.33	77.00	7.67	0.253	0.837	1.137	2	0.373
Happiness	4	2.50	2.50	0.00	0.000	1.000	0.000	3	1.000
Overall W & L Score	3	33.54	38.33	4.79	0.800	0.410	3.800	2	0.063