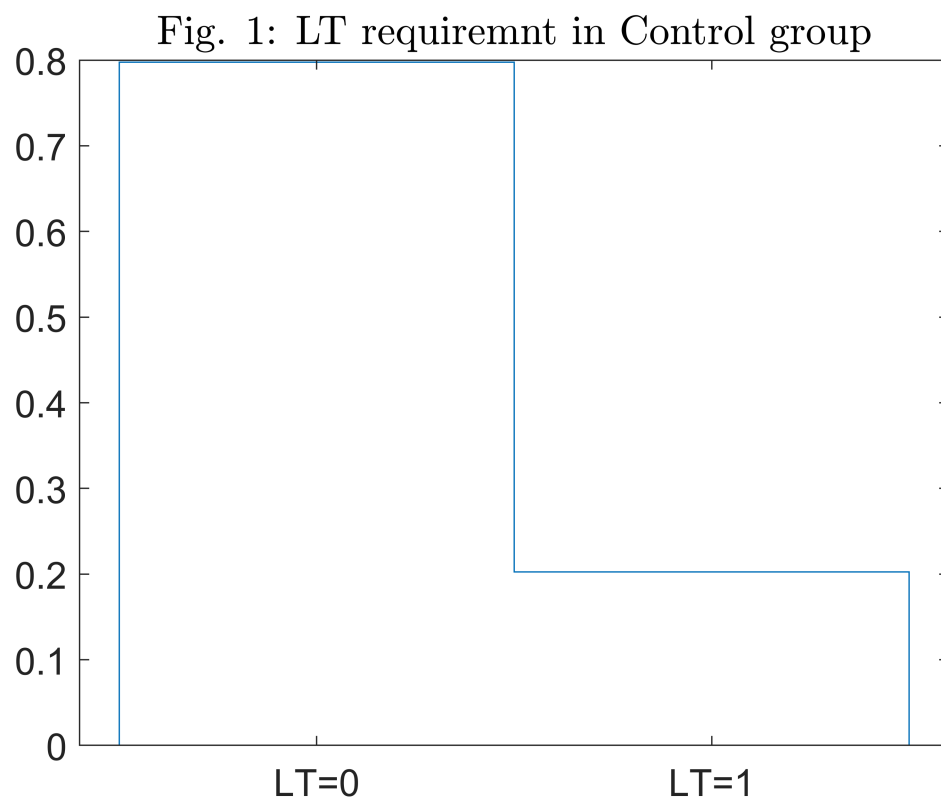


Assured Allies assignment Nofi

control Analysis

control group rate of Long Term Care Utilization

```
figure
Cntrl=tab.group=="control" ;
histogram(tab.ltc(Cntrl), 'DisplayStyle', "stairs", 'DisplayName', 'Long Term Care 0', ...
'Normalization', "probability");
set(gca, 'XTick', [0 1], 'XTickLabel', {'LT=0', 'LT=1'}, 'fontsize', 14)
title('Fig. 1: LT requiremnt in Control group');
```



parsing men and women

```
figure
CntrlW=tab.group=="control" & tab.gender==1;
CntrlM=tab.group=="control" & tab.gender==0;

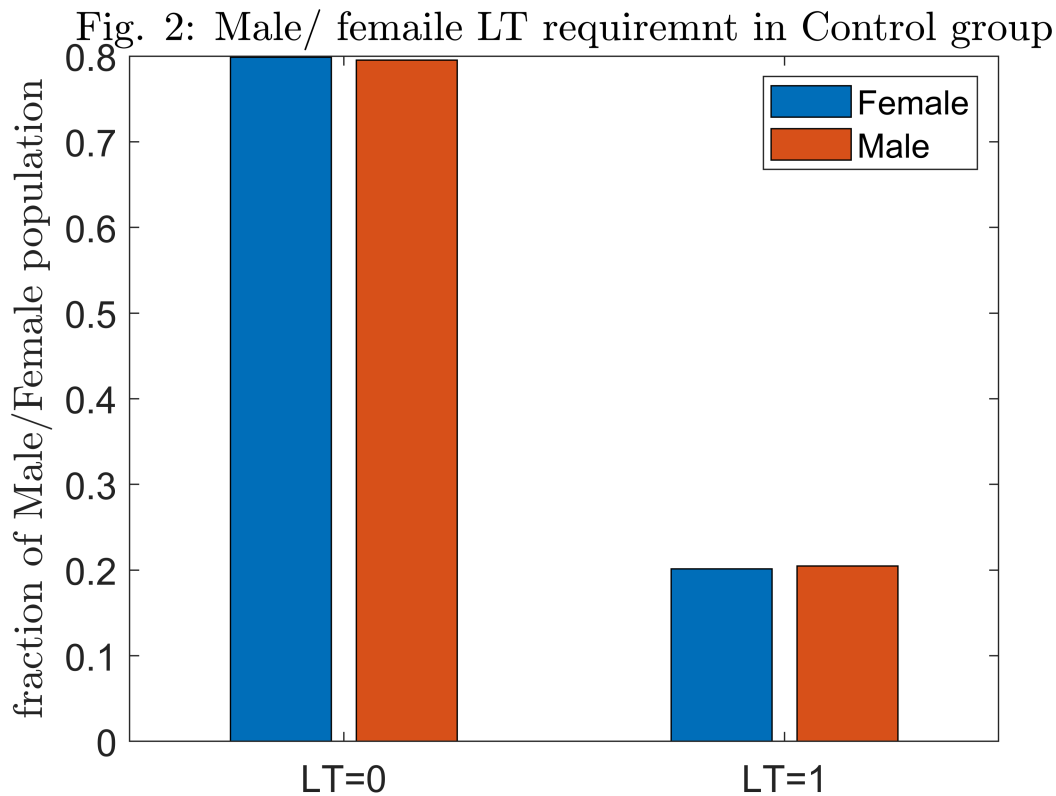
WMlt1=sum(tab.ltc(CntrlW)==1);
WMlt0=sum(tab.ltc(CntrlW)==0);

MNlt1=sum(tab.ltc(CntrlM)==1);
```

```
MNlt0=sum(tab.ltcb(CntrlM)==0);
```

```
figure
bar([0 1],[[WMlt0 WMlt1]./sum(CntrlW); [MNlt0 MNlt1]./sum(CntrlM)])
ylabelmine('fraction of Male/Female population');
set(gca,'XTickLabel',{'LT=0','LT=1'},'fontsize',14)
legend({'Female','Male'})

titlemine('Fig. 2: Male/ femaile LT requiremnt in Control group');
```



parsing by age groups fo 'LT needed' populaion

```
% bin by ages
ageBins=60:10:90;
binInd=discretize(tab.age,ageBins);

baseMask=tab.group=='control' & tab.ltcb==1;

femMask=baseMask & tab.gender==1;
malMask=baseMask & tab.gender==0;

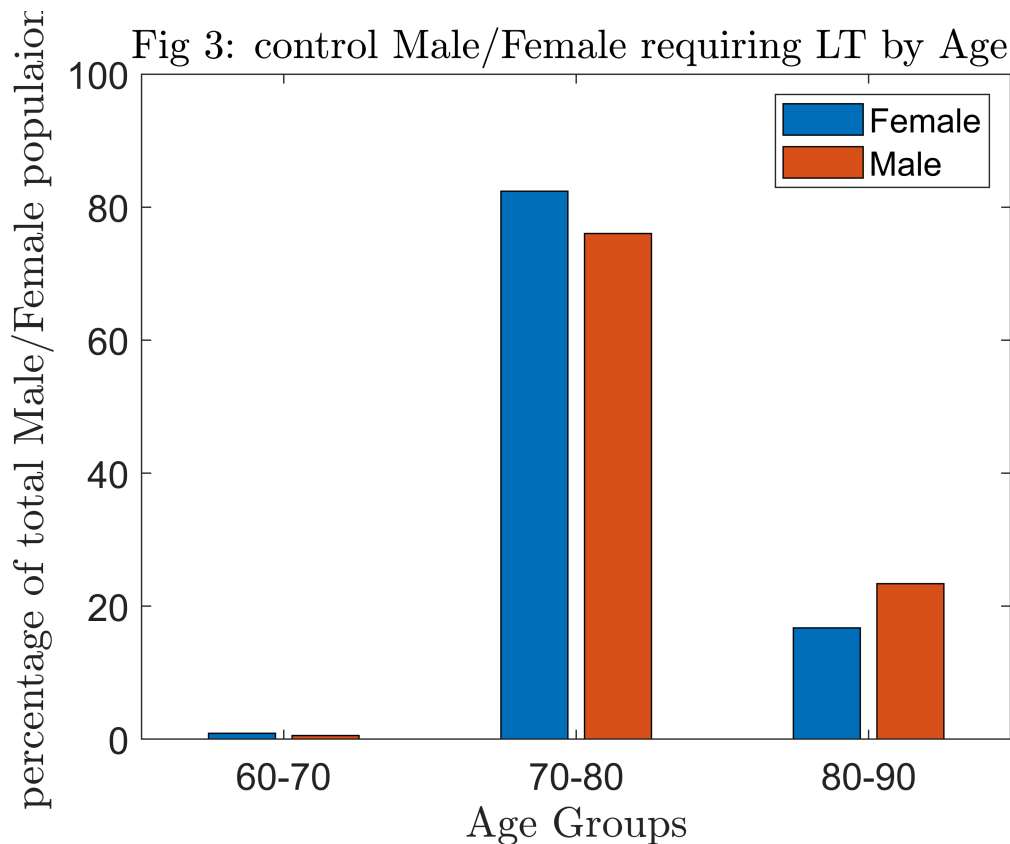
femCount=[ sum(binInd(femMask)==1) sum(binInd(femMask)==2) sum(binInd(femMask)==3) ]./sum(femMask)
```

```
malCount=[ sum(binInd(malMask)==1) sum(binInd(malMask)==2) sum(binInd(malMask)==3) ]./sum(malMask)
```

```
figure
bar(1:3,[femCount ; malCount])

set(gca,'XTickLabel',{'60-70','70-80','80-90'},'fontsize',14)
legend({'Female','Male'})

xlabelmine('Age Groups');
ylabelmine('percentage of total Male/Female populaion');
titlemine('Fig 3: control Male/Female requiring LT by Age ');
```



exploring isolatio status

in the intervention gorup, among those that answered the questionnaire ,and are socially isolated

```
baseMask=tab.group=='intervention' & tab.questionnairecomplete=='1' ;% & tab.ltc b==1;

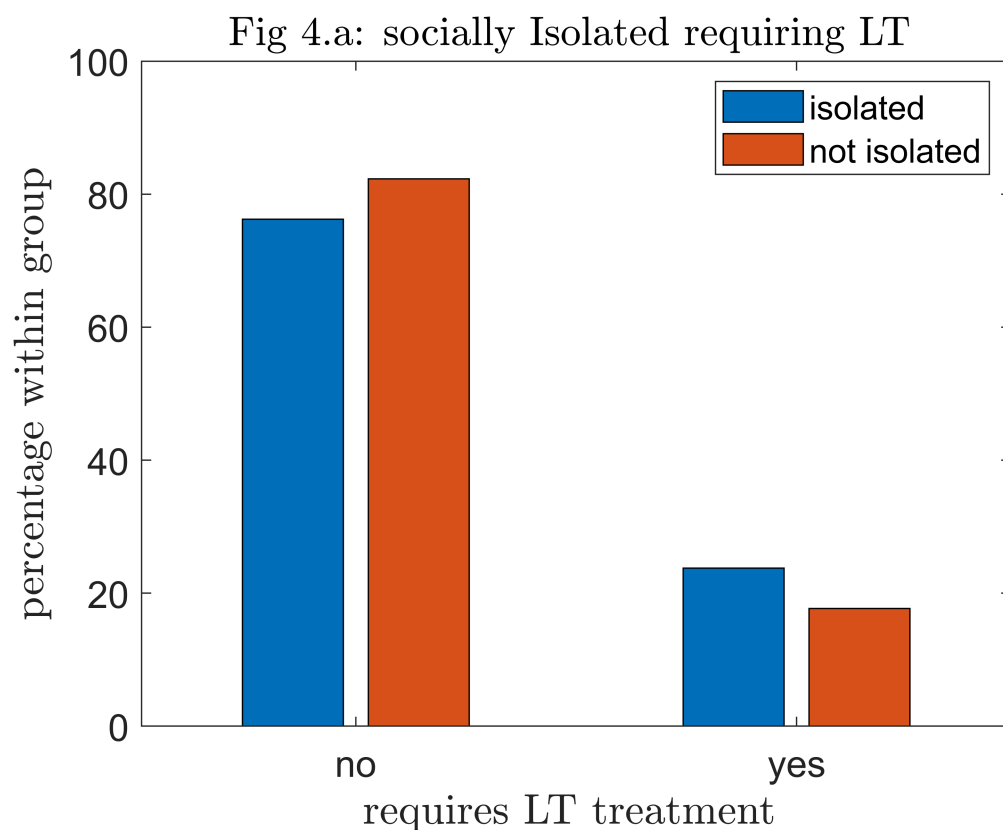
isoMask=baseMask & tab.socialisolationb=="1";
noIsoMask=baseMask & tab.socialisolationb=="0";

isoData=[sum(tab.ltc b(isoMask)==0), sum(tab.ltc b(isoMask)==1)]./sum(isoMask).*100;
noIsoData=[sum(tab.ltc b(noIsoMask)==0) , sum(tab.ltc b(noIsoMask)==1)]./sum(noIsoMask).*100;
```

```
figure
bar([0 1],[ isoData;noIsoData ])

set(gca,'XTickLabel',{'no' , 'yes'}, 'fontsize',14)
legend({'isolated', 'not isolated'})

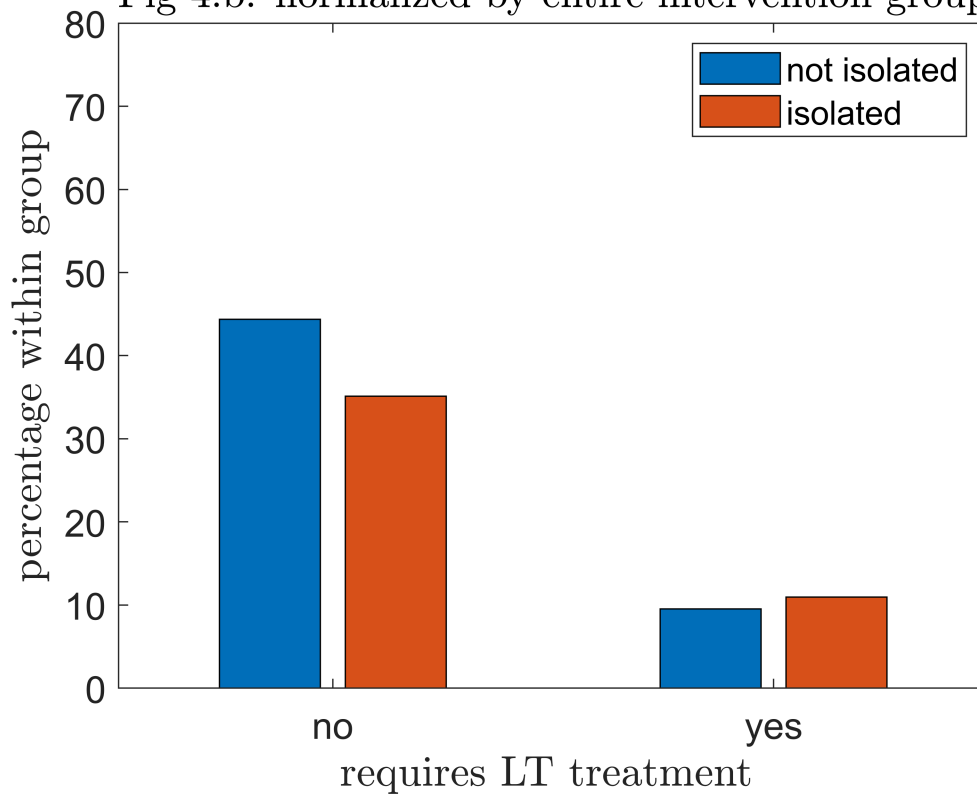
xlabelmine('requires LT treatment ');
ylabelmine('percentage within group');
titlemine('Fig 4.a: socially Isolated requiring LT ');
```



```
noLTData =[sum(tab.ltcB(noIsoMask)==0) sum(tab.ltcB(isoMask)==0)];
yesLTData=[sum(tab.ltcB(noIsoMask)==1) sum(tab.ltcB(isoMask)==1)];
figure
bar([0 1],[ noLTData./sum(baseMask) ; yesLTData./sum(baseMask)].*100    )

set(gca,'XTickLabel',{'no' , 'yes'}, 'fontsize',14)
legend({'not isolated', 'isolated'})
ylim([0 80])
xlabelmine('requires LT treatment ');
ylabelmine('percentage within group'); % of total Male/Female populaion');
titlemine('Fig 4.b: normalized by entire intervention group');
```

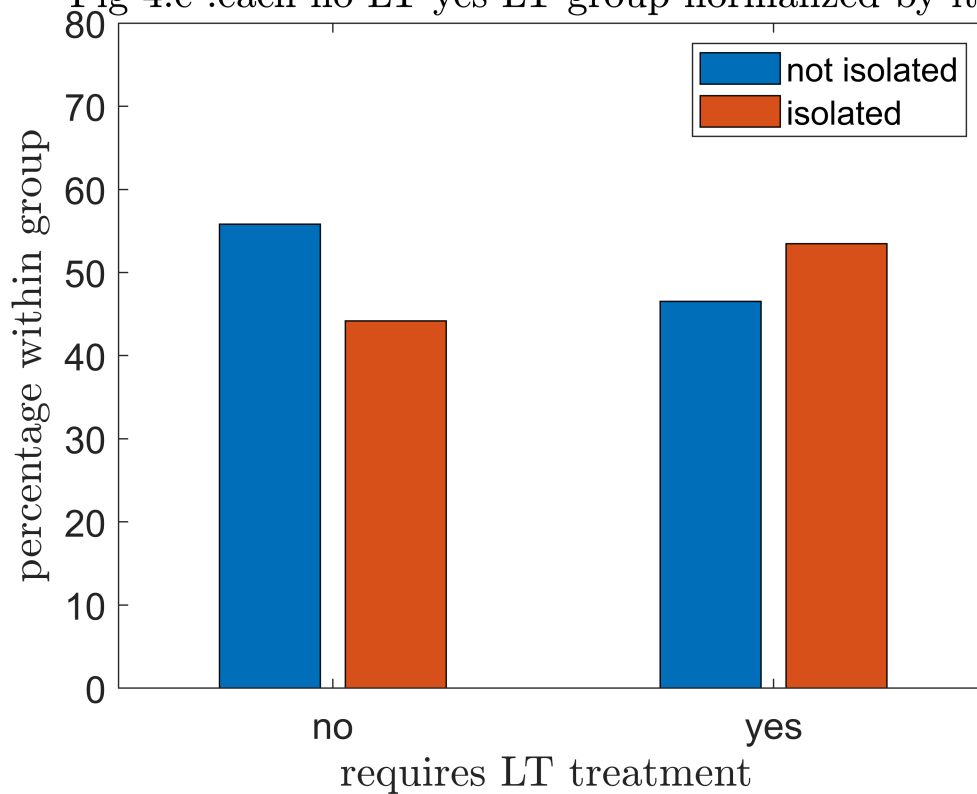
Fig 4.b: normalized by entire intervention group



```
figure
bar([0 1],[ noLTData./sum(noLTData) ; yesLTData./sum(yesLTData)].*100    )

set(gca,'XTickLabel',{'no' , 'yes'},'fontsize',14)
legend({'not isolated','isolated'})
ylim([0 80])
xlabelmine('requires LT treatment ');
ylabelmine('percentage within group'); % of total Male/Female populaion');
titlemine('Fig 4.c :each no-LT yes-LT group normalized by itself');
```

Fig 4.c :each no-LT yes-LT group normalized by itself



To test the significance of the result we perform a t-test comparing the control group and isolated group, with respect to those who require long-term treatment. :

```
[h,p]=ttest2(tab.ltcn(Cntrl),tab.ltcn(isoMask));
```

```
fprintf('Result of the t-test: There is a significant difference between control and Isolated g
```

```
Result of the t-test: There is a significant difference between control and Isolated groups, with significance of p=
```

```
%risk_factor=
```

```
% parse by age
```

```
baseMask=tab.group=='intervention' & tab.questionnairecomplete=='1' ; % & tab.ltcn==1;
```

```
isoMask=baseMask & tab.socialisolationb=="1";  
noIsoMask=baseMask & tab.socialisolationb=="0";
```

```
fac0=sum(tab.ltcn(isoMask)==0)./100;
```

```

fac1=sum(tab.ltcb(isoMask)==1)./100;

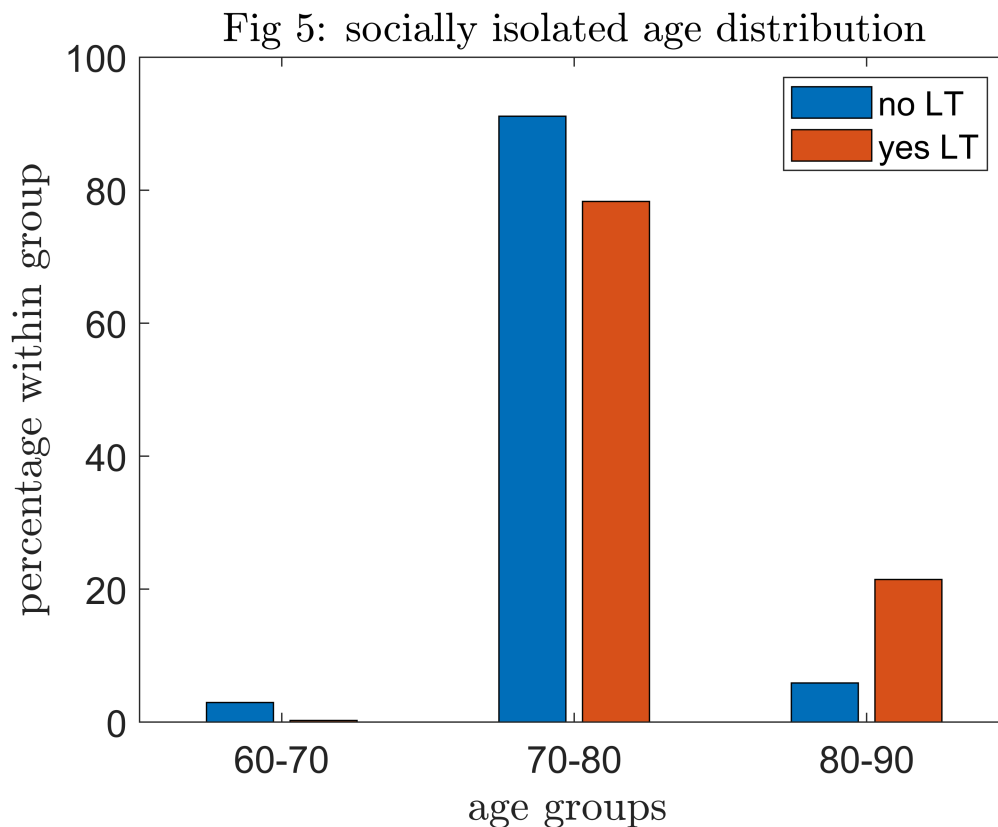
age1=[ sum(tab.ltcb(isoMask & binInd==1)==0)./fac0    sum(tab.ltcb(isoMask & binInd==1)==1)./fac0
age2=[ sum(tab.ltcb(isoMask & binInd==2)==0)./fac0    sum(tab.ltcb(isoMask & binInd==2)==1)./fac0
age3=[ sum(tab.ltcb(isoMask & binInd==3)==0)./fac0    sum(tab.ltcb(isoMask & binInd==3)==1)./fac0

figure
bar([0 1 2],[ age1 ; age2 ; age3])

set(gca,'XTickLabel',{'60-70' , '70-80' , '80-90'},'fontsize',14)
legend({'no LT','yes LT'})

xlabelmine('age groups ');
ylabelmine('percentage within group'); % of total Male/Female populaion');
titlemine('Fig 5: socially isolated age distribution');

```



of the socially isolated group, see LT requirement with volunteer status

```

baseMask=tab.group=='intervention' & tab.questionnairecomplete=='1' & tab.socialisolationb=="1";

volMask=baseMask & tab.volunteerb=="1";
noVolMask=baseMask & tab.volunteerb=="0";

% fac0=sum(tab.ltcb(baseMask)==0)./100;

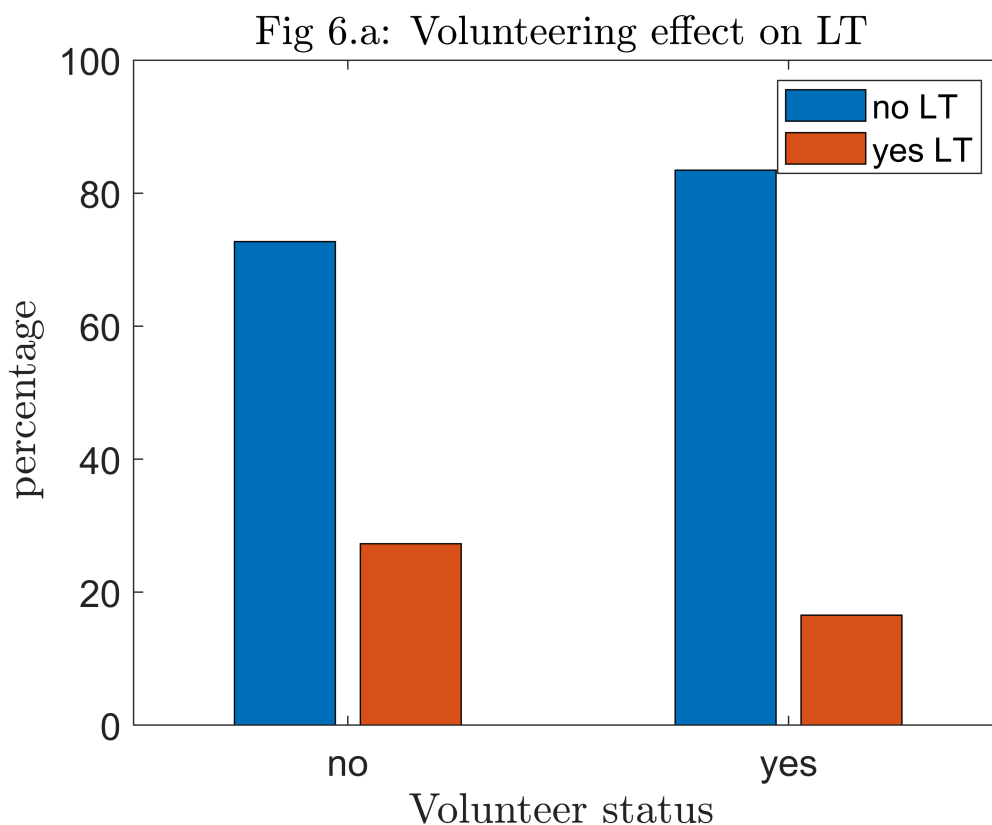
```

```
% fac1=sum(tab.ltcbaseMask)==1)./100;

noVData=[ sum(tab.ltcbaseMask)==0) sum(tab.ltcbaseMask)==1) ]./sum(noVolMask).*100 ;
yesVData=[ sum(tab.ltcbaseMask)==0), sum(tab.ltcbaseMask)==1) ]./sum(volMask).*100 ;

figure
bar([0 1],[ noVData ; yesVData])

set(gca,'XTickLabel',{'no' , 'yes'},'fontsize',14)
legend({'no LT','yes LT'})
ylim([0 100])
xlabelmine('Volunteer status ');
ylabelmine('percentage '); % of total Male/Female populaion');
titlemine('Fig 6.a: Volunteering effect on LT ');
```



```
noLTData=[ sum(tab.ltcbaseMask)==0) sum(tab.ltcbaseMask)==0) ]./fac0;%. /sum(noVolMask).*100
yesLTData=[ sum(tab.ltcbaseMask)==1), sum(tab.ltcbaseMask)==1)]./fac1;% ]./sum(volMask).*100

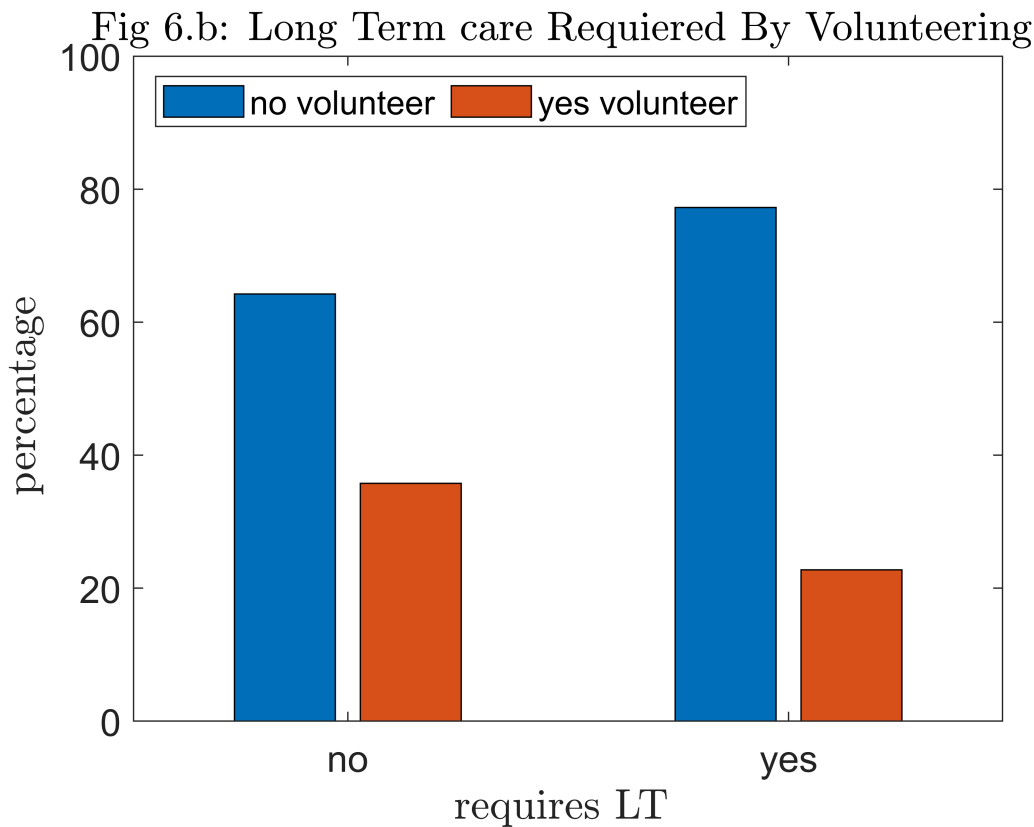
figure
bar([0 1],[ noLTData ; yesLTData])
```



```

set(gca,'XTickLabel',{'no' ,'yes'},'fontsize',14)
legend({'no volunteer','yes volunteer'},'location','northwest','NumColumns',2)
ylim([0 100])
xlabelmine('requires LT ');
ylabelmine('percentage '); % of total Male/Female populaion');
titlemine('Fig 6.b: Long Term care Required By Volunteering ');

```



We perform a t-test to find whether the difference between the volunteering and non-volunteering group is significant:

```

[h2,p2]=ttest2(tab.ltcb(noVolMask),tab.ltcb(volMask));
fprintf('Result of the t-test: There is a significant difference between the gorups, with signi

```

Result of the t-test: There is a significant difference between the gorups, with significance of p=0.000002