



!"#\$%&'()\*+,-./0&\*1+.234\*1+3(+..2(+3\*

5.26\*7\*\*8987\*

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**SOLA 4951/SOLA9451**

**RESEARCH THESIS A**

"#\$%&! ' (#\$&#!) \*#\$+, -!.....Y  
0 ' (#\$&#!) \*#\$+, -!\$( )!& ' (-1, #\$\$# ' (!# 2 \* -!% ' 3!& ' 13- \*!& ' (4\* ( ' 3!.....Y  
0 ' (#\$&#!) \*#\$+, -!\$( )!& ' (-1, #\$\$# ' (!# 2 \* -!% ' 3!\$)) #+' (\$, !, \* &#13\*3-5) \* 2 ' (-#3\$# ' 3-5, \$6! -#\$%!!.....Y  
728 ' 3#\$ (#!, + (9-!.....Y  
0 ' 13- \*!) \*#\$+, -!.....Y  
03\* )#!8 ' + (#-!.....Y  
0 ' (#\$&#!: ' 13-!.....;.  
" 1 2 2 \$3<!\$( )! =+2 -! ' %!#: \*!& ' 13- \*!.....;.  
"#1) \* (#!, \* \$3(+(>! ' 1#& ' 2 \* -!.....;.  
?@!AB ' (-C!\$( )!DE!D3' >3\$2!F\*\$3(+(>!G1#& ' 2 \* -!.....;.  
0 ' 13- \*!F\*\$3(+(>!G1#& ' 2 \* -!A2\$88\* )#!?!?@!D3' >3\$2!\$( )!DE!F\*\$3(+(>!G1#& ' 2 \* -!6\*, ' HC!!  
J\*\$&: +(>!-#3\$#\* >+\* -!.....||  
0 ' 13- \*!-&: \* )1, \*!.....K  
=- \* - - 2 \* (#!.....L  
=- \* - - 2 \* (#! ' 4\*34+\*H!.....L  
J: \* -+ -! =!A " GF= I MKN5 " GF=MIKNC! = - - \* - - 2 \* (#!.....D  
D3\* - \* (#\$# ' ( !.....M  
" 162+ - - + ' ( !.....M  
P\$39(+>!.....NQ  
@R\$2+( \$# ' ( -!.....NQ  
" 8\* &\$, !& ' (-) \*3\$# ' (!\$( )! -188, \* 2 \* (#\$3<!\$ - - \* - - 2 \* (#!.....NQ  
J: \* -+ -!S #: )3\$H\$, T! " 1-8\* (-+ ' (T!\$( )!J+2 \*!@R#\* (-+ ' (!U!.....NQ  
@R8\* &#\* )!3\* - ' 13& \* -!% ' 3!-#1) \* (#-!.....NN  
0 ' 13- \*!\*4\$, 1\$# ' (!\$( )!) \*4\*, ' 82 \* (#!.....N/  
D3+V\* -!.....N/  
B\*\$, #: !\$( )! " \$% \* #<!.....N/  
=&\$) \* 2+&! : ' (\* -#<!\$( )!8, \$>+\$3+ - 2!.....N;  
=) 2+(+ -#3\$#4\*! 2\$##\*3-!\$( )!, + (9-!.....N;  
=88\* ( )+R! =!!@ (>+ ( \* \*3-! =1 -#3\$, +\$!A@ =C!O ' 28\*##\* (&+\* -!.....NK  
!







K.! Z('H,\*>\*'!'\*(>(\*3+(>!)\*)->(!83\$&#&\*!\$())!&'(#\*R#1\$,!%\$&# '3-!+28\$&#(>!#: \*!  
\*(>(\*3+(>!)+-&+8,+(\*.!  
L.! b()\*3-#\$(+(>!%'!#: \*!-&'8\*!83+(&+8,\*-!('32-T!\$&&'1(#\$6+,#\*-\$!)!6'1()-!'%!  
-1-#\$(,\$6,\*!\*(>(\*3+(>!83\$&#&\*!+(!#: \*!-8\*&+!&!)+-&+8,+(\*.!  
O.! =88,+&\$#+'(!%'!\*-#&6,+:-:\*)!\*(>(\*3+(>!2\*#: ') -!# '!&'28,\*R!\*(>(\*3+(>!83'6,\*2!  
-',4+(>.!  
g.! ^,1\*(#!\$88,+&\$#+'(!%'!\*(>(\*3+(>!\*#&:(+\_1\*-T!# ',-!\$())!3\*- '13&\*-.!  
M.! =88,+&\$#+'(!%'!-<-\*2\$#&!\*(>(\*3+(>!-<(#: \*--!\$())!)\*->(!83'&\*--\*-.!  
NQ.! =88,+&\$#+'(!%'!-<-\*2\$#&!\$883'\$&: \* -!# '!# : \*!&'()1&#!\$())!2\$(\$>\*2\*(#!%'!\*(>(\*3+(>!  
83'0\*&#-.!  
NN.!@#:+&\$,!&'()1&#!\$())!83'%'--+'(\$,!\$&&'1(#\$6+,#<.!  
N/!@%\*&#4\*!'3\$,!\$())!H3+##\*(!&'221(+&\$#+'(!+(!83'%'--+'(\$,!\$()),\$<!)'2\$+(-!  
N;.!03\*\$#4\*!T!+(('4\$#4\*!\$())!83'\$&#4\*!) \*2\*\$('13.!  
NI.!D3'%'--+'(\$,!1-\*!\$())!2\$(\$>\*2\*(#!%'!+('%32\$#+'(!  
NK.!G3)\*3,<!2\$(\$>\*2\*(#!%'!-\*,%T!\$())!83'%'--+'(\$,!&'()1&#.!  
NL.!@%\*&#4\*!#\*\$2!2\*26\*3-:+8!\$())!#\*\$2!,\*\$)\*3-:+8.!

J:+-!&'13-\*!+-!)\*)->(\*)!#'\$)3\*--!#: \*!,\*\$3(+(>'1#&'2\*-!6\*, 'H!\$())!#: \*!&'33\*-8'()(>!  
@(>(\*3-!=1-#3\$,+\$! "#\$>\*!N!0'28\*##(&<!"#\$(\$3)-!%'3!D3'%'--+'(\$,!@(>(\*3-!\$-!-:'H(!  
J: \*!%1,,!+-#!'!"#\$>\*!N!0'28\*##(&<!"#\$(\$3)-!2\$<16\*!'1()!+(!=88\*())+R! =.!  
!  
=#\*3!-1&&\*--%1,,<!&'28,\*#(>!#:+-!&'13-\*T!<'1!-:'1,)!6\*!\$6,\*!# 'W!

=# #: \*!&' (&,1-+'(!%'!#:+-!&'13-\*T!-#1)\*(-!-:'1,)!6\*!\$6,\*!# 'W!  
N.! Y\*4\*, '8!\$!)\*)->(!'3!\$!83'&\*--!'3!+(4\*-#>\$\*!\$!: <8'#: \*--!%' , 'H+(>!+)1-#3<!\$())!  
83'%'--+'(\$,!\*(>(\*3+(>!--\$(\$3)-!AOT!gT!MT!NQC!  
/! 03#&\$, <13\*%, \*&#!'(!\$!-8\*&\$,+ -#16')<!%'19('H,\*>\*!3\*, \$#\*)!# '!# : \*+3!# : \*--!# '8+&.!A; C!  
;.! =88,<!--&\*(#&+&!\$())!\*(>(\*3+(>!2\*#: ') -!# '!- ',4\*!\$(!\*(>(\*3+(>!83'6,\*2.!AOC



6\*!&' 28,\*#\*)!\$( )!-162+##\*)!#!P\*3,+() \*!Z\$<!( )!18,'\$)\*)!#!#: \*!" GF=! IMKN5MIKN!



**A**

7#!+-!+(#\* ( ) \* )!# : \$#!J : \* -+!=!& ' 4\*3!# : \*!-& ' 8+(>T!8,\$ ( (+(>T!\$( )!& ' 2 8, \*#+(>!  
83\*8\$3\$#+' (-!%' 3!# : \*!83' d\* &#.!  
N.! D3' d\* &#!D,\$ (! i !# : +-!H+,!& ' 2 83+- \*!\$!N` /!8\$> \*!) ' &1 2 \* (#!\*R8,\$+(+(>!# : \*!d1-#%+&\$#+' (!%' 3!  
# : \*+3!83' d\* &#T!\$!3' 1>:!, \$<' 1#!' %!\$!8,\$ (!' %!H' 39!# : 3' 1>: ' 1#!# : \*!83' d\* &#T!+( &,1)+(>!\$( <!



	/.! " * 2+(\$3! D3* - *(\$#+' (! ;.! D3'>3*--!a*8'3#! !	O! ! NQ!	NQ j ! ! K j !	" 18*34+- ' 35=--*-- ' 3!AKQ5KQC! ! " 18*34+- ' 3!
J: * --!0!	N! ^+(\$,!a*8'3#! /.! D\$3#&+8\$#+' (! ;.! D3* - *(\$#+' (! '%!H' 39			





! If there is a significant difference between the male and female and age groups



?\*, 'H!\$3\*!# :+(>-!#'!&' (-+) \*3!H: \* (!81##+(>!# ' > \*#: \*3!#: \*!,#\*3\$#13\*!\$(!)83'>3\* --!3\*4\*H!  
)&'12\*(#!

<p>F#*3\$#13*!a*4*H! !</p>	<p>(W a , a a ?)  ! ?3+*%!6\$&amp;9&gt;3'1(!# '!83'd*&amp;#! ! "122\$3&lt;! '%!,#*3\$#13*!3*, *4\$(!# '!83'd*&amp;#! ! 7)*(#%+&amp;\$#+' (! '%!&gt;\$8-m!+(!#: *!,#*3\$#13*! ! D3'6,*2!"#\$*2*(#!A+(%'32*)!6&lt;!&gt;\$8-!+(!#: *!, ,#*3\$#13*C! ! B&lt;8'#: * -+-\$(!)\$+2-!</p>	<p>KQ j!</p>	<p>N/'NK!</p>
<p>D3'd*&amp;#!D,\$(!  D3'd*&amp;#! Y*8*( )*(#! D3*8\$3\$#+'(-!</p>	<p>AH a a a a ?) ! ! D3'8'-'*!)!"',1#'(5@R8*3+2*(#\$,!P*#:' )', '&gt;&lt;! ! J: * -+!#2*,+( *!i!%'3!( *R#!#H' !#*32-! o! n1-#%+&amp;\$#+' (! '%!#2*!\$, '&amp;\$#+' (!%'3!*\$&amp;:! #\$-9! ! =4\$,\$6,*!3*-'13&amp;*-'!+)*(#%+* )! ! a*_1+3*!)#3\$+((&gt;!)\$(!)18-9+,+(&gt;!)*(#%+* )!</p>	<p>/Q j!</p>	<p>;`K!</p>

(Ca a a a ?) W a a a a ?)

D3'd\*&#!-8\*&%+&T!61#!2\$<!+(&,1)\*!  
! @4+)\*(&\*!'!#3\$+((>!)'(!-8\*&%+&!\*\_1+82\*(#!  
! @4+)\*(&\*!'!-'2\*!18-9+,+(>!)!(\*H!  
- '%H\$3\*52\*#:' )-!  
! D3\*,+2+(\$3<!3\*-1,#-!  
! D3\*,+2+(\$3<!-9\*#&: \* -!  
! 0'28'(\*(#-58\$3#-!'3)\*3\* )!



J: \*!,\$#\*!8\* (\$,#<!+\$88,+\*)!8\*3!&\$,\* ( )\$3!)\$<!A+ (&,1)+( >!H\*\*9\* ( )-\$ ( )!816,+&! : ',+)\$<-C!#:\$#!  
#: \*!\$--\*--2\* (#!+!'4\*3)1\*!J: \*3\*!+!( '!'83' `3\$#\$!'!# : \*!,\$#\*!8\* (\$,#<!% '3!-162+--+ ' (-!2\$) \*!  
8\$3#!H\$<!# : 3' 1>: !\$!)\$<.!  
!

Ma

P\$39+( >!>1+ ) \* ,+ ( \* - ! % ' 3!\$--> ( 2 \* (#!-162+--+ ' (-!H+,,!6\*!83' 4+ ) \* )!\$#!# : \*!-\$2 \*!#2 \*!\$-!  
\$--> ( 2 \* (#!) \*\$#,-!# ' !\$--+-#H# : !2 \* \*# (>!\$--\*--\$6, \*!3\* \_1+3\* 2 \* (#!-!" 162+--+ ' (-!H+,,!6\*!  
2\$39\* )!\$&&' 3)+ (>!# ' !# : \*!2\$39+( >!>1+ ) \* ,+ ( \* -!83' 4+ ) \* ) .!

J: \*3\*!+-( '!'R\$2!% '3!# : +-!&' 13- \* .!

7%<' 1!:\$4\*!R8\*3+ (&\*)!\$( !+,, ( \* --!' 3!2+-)\$4\* (#13\*!6\* <' ( )!<' 13!&' (#3' ,!# : \$#!H+,,!+ (#3%\*3\*!H# : !  
<' 13!\$--\*--2\* (#!8\*3%' 32\$ (&\*T!<' 1!\$3\*! \*,+>6, \*!# ' !\$88,<!% ' 3! " 8\*&\$,! 0' (-+) \*3\$#+' (!83+' 3!# ' !  
-162+## (>!\$ (!\$--\*--2\* (#! ' 3!+##+ (>!\$ (!\*R\$2 .!!  
!

!# : \$#!bX " S! ( ' H! : \$-!\$!^+#!# ' ! " +#!5! " 162+#!31, \*T!H : +& : !2 \*\$ ( -!# : \$#!+!<' 1!-#!\$ (!\*R\$2!  
' 3!-162+#!\$!8\*+&\*! ' %!\$--\*--2\* (#T!<' 1!\$3\*! ) \* &,\$3+ (>!<' 13- \*,%1%#! \* ( ' 1> : !# ' ! ) ' !- ' !\$ ( )!&\$ ( ( ' #!  
, \$#\*3!\$88,<!% ' 3! " 8\*&\$,! 0' (-+) \*3\$#+' ( .!  
!

^' 3! ) \*\$#,-! ' %! \$88,<+ (>! % ' 3! " 8\*&\$,! 0' (-+) \*3\$#+' ( ! \$ ( )! &' ( )#+' (-! % ' 3! # : \*! \$H\$3) ! ' %!  
-188, \* 2 \* (#\$<!\$--\*--2\* (#T!8, \*\$- \*!- \*#!# : \*!+(% ' 32\$#+' ( ! ( !bX " Sf-! " 8\*&\$,! 0' (-+) \*3\$#+' ( !  
8\$>\*.!

E

a\*\_1\* -#-!% ' 3!# : \*--!H# : )3\$H\$,T!-1-8\* (-+ ( ! ' 3! \*R#\* (-+ ( ! - : ' 1, )!6\*! 2\$ ) \*!+ ( !H3+## (>!# ' !# : \*!  
J: \*--!0 ' ' 3)+ (\$# ' 3.!J: \*!% ', ' H+ (>!83' &\*) 13\* -!\$ ( )!31, \* -!H+,,!6\*!\$88,+\*)!H: \* ( !\$!-#1 ) \* (#!H+ : \* -!  
# ' !H# : )3\$H! ' 3' 2T! ' 3!-1-8\* ( )! " GF=IMKN5" GF=M!KN.! J: \*-\*!31, \* -!-188, \* 2 \* (#!# : \*!bX " S!  
) \*\$),+ ( \* -T!&' ( )#+' ( -T!\$ ( )!83' &\*) 13\* -!% ' 3!H# : )3\$H+ (>!% 3' 2!\$!&' 13- \* .!!!  
DF@=" @!XGJ@W!  
!

N.! 7 (! \*4\*3<!&\$- \*!H: \*3\*!\$! -#1) \* (#!H+ : \* -!# ' !8' -#8' (\*!&' 28, \*#+' ( ! ' %!# : \*!# : \* -+T!+. \*!# ' !  
-1-8\* ( )! H ' 39! \$ ( )! &' 28, \*#\*!# : \*!# : \* -+!+ ( ! \$! , \$#\*3! - \* -+ ' (T! H3+##\* ( ! \$883' 4\$, ! ' %!# : \*!  
-18\*34+- ' 3!21-#!%+3-#16\*!' 6#\$+ ( \* )!6\*% ' 3\*!-162+## (>!\$!H3+##\* ( !3\*\_1\* -#!# ' !# : \*!J: \*--!0 ' `'  
' 3)+ (\$# ' 3.!  
!

J: \*!-18\*34+- ' 3!2\$<!3\*%1- \*!\$883' 4\$,!% ' 3!\$!4\$3+\*#<! ' %!3\*\$- ' ( -T! \* .>!# : \$#!# : \*! ( \* & \* --\$3<!



/.! =!-#1) \* (#!H: '!+!8\*32+##\*)!#!H#: )3\$H!H#: '1!%\$,13\*!%3' 2!-16d\*&#! "GF=IMKN5MIKN!  
-: '1,)!3\*`\* (3',!+(!#: \*!%' ,,'H+(>!- \*--+ '(!H#: ! \$! J: \*--+!X' 2+(\$#+' (!^'32.!X'#!#: \$#!  
1() \*3! ('32\$,! &+3&12-#\$(&\* -!) +-&' (#(1\$#+' (!H#: '1#!%\$,13\*!'3!%+(\$(&+,\$! 8\* (\$,#<!+-!  
8'--+6,\*!' (<!18!#!#: \*!0\* (-1-!Y\$#\*.!  
!

;.! S: \* (!\$!-#1) \* (#!+-!>3\$ (#\* )!\$ (!\*R#\* (-+' (!#: \*3\*!2\$<16\*!\$!8\* (\$,#<13\* -1,#+(>!(!\$!3\*)1&#+' (!  
'#!#: \*!#: \*--+! 2\$39.!J: +!-!H+,!6\*!+28' -\*)!\$&&'3)+(>!#!!31,\*-!\$883'4\*)!6<!#: \*!J: \*--+!





'#: \*3H+ - \*! '6#\$+ (! \$! a+-9! =-- \* -- 2 \* (#! % '3! \$883' 4\$,! 6<! #: \*+3! -18\*34+- '3! \$()! 6<! #: \*! " 8\$&\*!  
P\$(\$>\*3!+(!H: ' - \*!-8\$&\*!#: \*!H'39!+-!# '!6\*!) ' (\*.!  
!

a+-9! =-- \* -- 2 \* (#!#\* 28,\$#\* -!% '3! "D=0@ "T!@ sb7DP@XJ!\$()!DaG0@Yba@ " ! \$3\*!\$4\$+, \$6, \*!' (!  
#: \*! 2 ' ' ), \*! -+#\*.! a+-9! =-- \* -- 2 \* (#-! \$()! \*R\$28, \* -! \$3\*! \$,3\*\$) <! \$4\$+, \$6, \*T! #: 3' 1> :! < '13!  
-18\*34+- '3!% '3! 2\$(<!\$&#4+#+\* -.!0 ' 28, \*#\* )!'3!2 ' )+#+\* )!4\*3-+' (-!- : '1,)!6\*!-162+##\* )!\$-!-> (\*)!  
:\$3)!&'8+\* -!\$()!P " !S '3)!\*, \*&#3' (+!4\*3-+' (-!# ' !Z+\$(!^' (>!0 :+(!A9%.& :+( [ 1(-H.\* )1.\$1C.!

**A**

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bX" S!:\$-!\$(!' (>' +(>!&' 2 2#2 \* (#!# ' !% ' -#\*3+(>!\$!&1,#13\*! '%!, \*\$3(+(>!+(%' 32 \* )!6<!\$&\$) \* 2+&!  
+ (#\* >3+<.! =, ,! bX" S! -#1) \* (#-! :\$4\*!\$!





