



!"#\$%&'()*+,-./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!\$)) #+' (\$, !, * *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+(>!)*)->(183\$&#&*!\$())!&'(#*R#1\$,!%\$&# '3-!+28\$&#(>!#: *!
*(>(*3+(>!)+-&+8,+(*.!
L.! b() *3-#\$(+(>!%#!#: *!-&'8*T!83+(&+8,*-T!('32 -T!\$&&'1(#\$6+,#*-\$!)!6'1()-!'%!
-1-#\$(,\$6,*!*(>(*3+(>183\$&#&*!+(!#: *!-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+(>!)<(#: *--!\$())!)*->(183'&*--*-.!
NQ.! =88,+&\$#+'(!%!*-<-*2\$#&!\$883'\$&: * -!#! #: *!&'()1&#!\$())!2\$(\$>*2*(#!%!*(>(*3+(>!)
83'0*&#-.!
NN.!@#: &\$,&'()1&#!\$())!83'%--+'(\$,\$&&'1(#\$6+,#<.!
N/!@%**!'3\$,\$())!H3+##*(!&'221(+&\$#+'(!!(83'%--+'(\$,\$()),\$<!)'2\$+(-!
N;.!03*\$#4*T!+(('4\$#4*!\$())!83'\$*!) *2*\$('13.!
NI.!D3'%--+'(\$,!1-*!\$())!2\$(\$>*2*(#!%!*+(%32\$#+'(!.
NK.!G3)*3,<!2\$(\$>*2*(#!%!*-*,%T!\$())!83'%--+'(\$,!&'()1&#.!
NL.!@%**!#*\$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#&i8\$#+' (! ;.! D3* - *(\$#+' (! '%!H' 39			



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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\$&9>3'1(!)#!'!83'd*&#! ! "122\$3<! '%!,#*3\$#13*!3*,*4\$(!# ' !83'd*&#! ! 7)*(#%+&\$#+' (! '%!>\$8-m!+(!#: *!,#*3\$#13*! ! D3'6,*2! "#\$*2*(#!A+(%'32*)!6<!>\$8-!+(!#: *!, ,#*3\$#13*C! ! B<8'#: * -+-\$(!)!\$+2-!</p>	<p>KQ j!</p>	<p>N/'NK!</p>
<p>D3'd*&#!D,\$(! D3'd*&#! Y*8*()*(#! D3*8\$3\$#+'(-!</p>	<p>AH a a a a ?) ! ! D3'8'-'*!)!"',1#'(5@R8*3+2*(#\$,!P*#:')', '><! ! J: * -+!#2*,+(*!i!%'3!(*R#!#H' !#*32-! o! n1-#%+&\$#+' (! '%!#2*!\$, '&\$#+' (!%'3!*\$&:! #\$-9! ! =4\$,\$6,*!3*-'13&*-'!+)*(#%+*!)! ! a*_1+3*!)#3\$+((>!)\$(!)18-9+,+(>!)*(#%+*!)!</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+##131,*T!H : +&: !2*\$(-!#:\$#!%<' 1!-#H(!*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* (#\$3<!\$--*--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\$<13*%1-*!\$883' 4\$,' !% '3!\$!4\$3+*#<' !%13*\$- ' (-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\$(<!\$+#+* -.!0 ' 28,*#*)!'3!2 ')+#+*)!4*3-+' (-!- : ' 1,)!6*!-162+##*)!\$-!-> (*)!
:\$3)!&'8+* -!\$()!P " !S '3)!* , * ' (+!4*3-+' (-!# ' !Z+\$(!^' (>!0 :+(!A9%.&:+([1(-H.*)1.\$1C.!

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



