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## Joe Phua, Ph.D.

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4G=GO%  
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0%12230%D6AA#>:'\$('6>%4\$>\$U\*A\*>(%

0%12210%D'>\*A\$%\$>5%4\*5'\$9(#5'\*8%

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9B,'>U%12. JN%

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[Note: \* denotes undergraduate or graduate co-authors at the time research was conducted; ISI Web of Science Impact Factor in parentheses.]

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Y\* @' \* 7 \* , 0% H \* ; \* A \$ ( ' : 8 % \$ > 5 % W > < 6 , A \$ ( ' : 8 % M 12 . P % X % ! , \* 8 \* > ( N %

Y\* @' \* 7 \* , 0% D6 A A # > ' : \$ (' 6 > % k # \$ , ( \* , ; - % M 12 . P % X % ! , \* 8 \* > ( N %

Y\* @' \* 7 \* , 0% [6# , >\$ ; % 6 < % D " ' ; 5 , \* > % t % 4 \* 5 ' \$ % M 12 . P % X % ! , \* 8 \* > ( N %

Y\* @' \* 7 \* , 0% [6# , >\$ ; % 6 < % D # , , \* > ( % W 8 8 # \* 8 % t % Y \* 8 \* \$ , : " % ' > % = 5 @ \* , ( ' 8 ' > U % M 12 . P % X % ! , \* 8 \* > ( N %

Y\* @' \* 7 \* , 0% W > ( \* , > \$ (' 6 > \$ ; % [6# , >\$ ; % 6 < % 9 ( , \$ ( \* U ' : % D6 A A # > ' : \$ (' 6 > % M 12 . P % X % ! , \* 8 \* > ( N %

! "#\$%&'(\$%11%

) \*+,#\$, -% . / 0%1213

% %

=A \*,':\$>%=:\$5\* A-%6<%=5@\* ,('8'>U%M===NO% 4 \* A+\*,8 " 'B%D6AA'(( \* \* 0% 4 \* A+\*,%  
M12.0%X%12. /N%

W>(\* ,>\$('6>\$;%D6AA#>':\$('6>%=886:\$('6>%MWD=NO% a \* \$;(" %D6AA#>':\$('6>%F'@'8'6>%  
4 \* >(6,8 " 'B! ,6U,\$A0% 4 \* >(6,%M12.0%X% ! , \* 8\*>(N%

Z \* 6,U'\$%a \* \$;(" :\$, \* %) 6#>5\$('6>0%R@\$;#\$( '6>%Y \* 86# , : \* %D \* >(\* ,%MRYDNO%Z,\$>(%  
Y \* @' \* 7 \* ,%\$>5% ! ,6U,\$A%R@\$;#\$(6,%M12.E%Q%1211N%

D6>86,('#A%<6,Z;6+\$;% 4 \* 5'\$%D#;(#, \* %\$>5%D6AA#>':\$('6>0% 4 \* A+\*,%M12.E%Q%1211N%  
? 9D%=>> \* >+\*,U%D6AA#>':\$('6>%Z,\$5#\$( \* %9(#5 \* >(%=886:\$('6>0% 4 \* A+\*,%M1220%X%  
12. .N%

? 9D% ` 6,A\$>%H6BB'>U%D6AA#>'(-b#(, \* \$: "%=886:\$('6>0% 4 \* A+\*,%M1220%X%12. .N%  
%

?>'@\*,8'(-%6<Z \* 6,U'\$0%D\$, \*\*,%D \* >(\* ,%MD6>(' +#('6>% (6%D\$, \*\* ,%F \* @ \* ;6BA \* >(%6<%

? Z=%9(#5 \* >(8N%M=7\$,5 \* 5%<6,%12.30%12.KO%12.00%12.JO%12.P%\$>5%1212N%

?>'@\*,8'(-%6<Z \* 6,U'\$0%=;B"\$%b A': ,6>! '0%CSA+5\$%9'UA\$%D"\$%B(\* ,%MD \* ,('<':\$(\*%6<%  
=BB, \* :\$('6>N%M=7\$,5 \* 5%<6,%121. .N%

?>'@\*,8'(-%6<Z \* 6,U'\$0%=F!Y%F \* B\$,(A \* >(\$;%H \* \$: " \* ,%6<(" \* % \_ \* \$,%12.E%M ` 6A'> \* \* N%  
%

! "#\$%&'(\$%1E%  
% %

) \*+,#\$, -% . / 0%1213

[Y 4 D%P2K2%M ` \$ "%Y\$- %a\$>NO%9B,'>U%12.P%  
[Y 4 D%P2K2%MD\$,6;'> \*%d6B6(NO%)\$;,%12.J%  
[Y 4 D%J112%M 4\$((" \* 7%!'A \*>(\$NO%9#AA \*,%12.K%  
[Y 4 D%P2K2%M\_ \$>%9 "\$>NO%)\$;,%12.E%  
[Y 4 D%P2K2%M [#>U%a 7\$>% !\$, \ NO%9B,'>U%12.E%  
[Y 4 D%J112%MD", '8('> \*%Y6+ \*, (8NO%9#AA \*,%12.1%  
[Y 4 D%P2K2%MR#>%966\%d 76>NO%)\$;,%12.1%  
[Y 4 D%P2K2%Md#\$>Q

! "#\$%&'(\$%13%

) \*+,#\$, -% . / 0%1213

% %

[Y 4 DP . E2L%F'U'(\$;%\$>5%96: '\$;% 4 \*5'\$%=5@\* ,('8'>U%D6A A#>':\$('6>%9(\$(\*U'\*8% M9B,'>U%12.30%9B,'>U%12.K0%9B,'>U%12.ON%

=F ! YKJ02L%F'U'(\$;%\$>5%96: '\$;%D6A A#>':\$('6>%9(\$(\*U'\*8%M)\$;,%12.E0%9B,'>U% 12.30%)\$;,%12.3%\$>5%)\$;,%12.K0%9B,'>U%12.00%)\$;,%12.00%9B,'>U%12.J0%)\$;,%12.J0% 9#A A \* ,%12.P0%)\$;,%12.P0%9B,'>U%12./0%9#A A \* ,%12./0%)\$;,%12./0%9B,'>U%12120% )\$;,%12120%9B,'>U%121.0%)\$;,%121.0%9B,'>U%1211N%

=F ! YKJ.2L%=5@\* ,('8'>U%\$>5%D6A A#>':\$('6>%4\$>U\*A \*>(%M9B,'>U%12.10%)\$;,% 12.10%9B,'>U%12.E0%)\$;,%12.E0%)\$;,%12.30%)\$;,%12.K0%)\$;,%12.00%9B,'>U%12.J0%)\$;,% 12.J0%9B,'>U%12.P0%)\$;,%12.P0%9B,'>U%12./0%)\$;,%12./0%9B,'>U%12120%9B,'>U%121.0% 9B,'>U%1211N%

=F ! YK//2L%F'U'(\$;%=5@\* ,('8'>U%M)\$;,%12..0%)\$;,%12.1N% )\_b9%.22.L%96: '\$;% 4 \*5'\$0%=5@\* ,('8'>U%\$>5%V,\$>5'>U%M)\$;,%12.P0%9B,'>U%12./0% )\$;,%12./N% )\_b9%.22.L%a67%(6%4\$,\ \*(\$%V,\$>5%#8'>U%96: '\$;% 4 \*5'\$%M)\$;,%12120%)\$;,%121.N% %

Db 4 4 E1 . L%D6A A#>':\$('6>%>%( " \*%&' ,(#\$;%Z,6#B%M9B,'>U%12. . N%MM>8(,#:(6,%6<% Y\* :6,5N%

Db 4 4 E12L%9A\$;,%Z,6#B%\$>5%H\*\$A%D6A A#>':\$('6>%M)\$;,%12.2N%MM>8(,#:(6,%6<% Y\* :6,5N%

Db 4 4 121L%W>(,6%(6%D6A A#>':\$('6>%H\* : ">6;6U-%M)\$;,%122/N%MH=N%

Db 4 4 122L%D6A A#>':\$('6>%\$8%\$%96: '\$;%9:'\*>: \*%M)\$;,%122PN%MH=N%

Db 4 4 E2 . CL%RAB',':\$;%Y\*8\*\$, : "%'>%D6A A#>':\$('6>%M9B,'>U%122PN%MH=N%

Db 4 4 EPEL%9B6,(80%D6A A#>':\$('6>%\$>5%D#;(,#, \*%M)\$;,%122JN%MH=N%

Db 4 4 E/OL%)\$8"'6>0%D6A A#>':\$('6>%\$>5%D#;(,#, \*%M9B,'>U%122JN%MH=N%

Db 4 4 E22L%)6#>5\$('6>8%<6,%9(#5-%6<%R>(\*,(\$>A \*>(0%D6A A#>':\$('6>%\$>5%96: '\*(-% M)\$;,%122ON%MH=N%