

7KH5 HDMRQVKLS EHVZ HHQ 3 DUHQMQJ 6 WØH DQG 0 HQMDØ+ HDOK 7KH0 HGLDMQJ 5 RØH RI 3 V FKRØJ LFDO5 HMLØHQFH

=L L6XQ

6FKRRCR 0 DQJHP HQV7LDQMQ8 QLYHUVW RI 7UDQWRD&KLGHO HGLQH 7LDQMQ &KLD

\$EVMDFW\$ GRØM+QV P HQDOK-HDK LV D KRWRSLF RI UHMDFK LQ VHIILHG RI P HQDOK-HDK ZKLFK LV UHDMG VR VHI K-HDK JURZ VR RI DGRØM+QV LQGLYLGDOY 7KHUH DUH P DQ IDFARUV DIIHFWJ DGRØM+QV P HQDOK-HDK 7KHSUHVH-QVWVG ØRN/DVZ RD.SHFWR I DP LØ SDUHQMQJ VVØV DQGSX FKRØJLFDOUHMØQFH VR DQDØVH VHI UHDMRQVKLS EHVZHQ IDP LØ SDUHQMQJ VVØV SX FKRØJLFDOUHMØQFH DQG DGRØM+QV P HQDOK-HDK 7KH SXLSRVH RI VMLV SDSHULVWR VSSØP HQVWH JDSV LQ SUHYLXV VMLGHV DQG SURYLGH D EDLV IRULP SURYLQJ VHI ØM+ØRI DGRØM+QV P HQDOK-HDK 7KLV SDSHULV DQDØVHG VMLRXJK VHI P HMRGRI QMUDMUH UHMLZ DQG VHI FRFØMRQ/ RI VHI VMLG DUH DV IRØZV SDUHQMQJ VVØH LV DQ IP SRUDDM DFRUV LQ VHI IRUP DMRQRI DGRØM+QV KJK ØM+ØRI SX FKRØJLFDOUHMØQFH DELOV ' LIHUHQVSDUHQMQJ VVØV ZLØKDYH GLIHUHQVLP SDFW RQ DGRØM+QV P HQDOK-HDK 3V FKRØJLFDOUHMØQFH VJQLFDQØ DIIHFW DGRØM+QV P HQDOK-HDK DQGSX FKRØJLFDOUHMØQFH SDUHQMQJ P HGLDM/VHI UHDMRQVKLS EHVZHQ SDUHQMQJ VVØV DQG DGRØM+QV P HQDOK-HDK

,QMRGXFWRQ

: LUK VHI GYHØSP HQVRI VRFHW SFRSDV DVMQMRQ VR K-HDK KDV LQFUHDVHG DQGS VHI KDYH FRP HVR UHDDVH VØD/VH-DOK LV CRW RQD SK VFDOK-HDK EXAP HQDOK-HDK LV DØR DQ IP SRUDDQV P DQIHVMØRQ RI K-HDK ,Q UFFQVM HDV UHMDFK-HV KDYH SDG P RUH DVMQMRQ VR VHI VMLG RI P HQDOK-HDK LQ ZKLFK VZ RI DFRUV/VØD/VØDQR/VHILV CRUHG DUH IDP LØ SDUHQMQJ VVØH DQGSX FKRØJLFDOUHMØQFH \$ GRØM+QV DUH VHI IXMUH RI VHI P RMLH DQGS DQGS VHI P HQDØ K-HDK VØMV RI VHI DGRØM+QV URXS KDV EHQ D KRVMVXHI LQ UFFQVM HDV ZLWK D KJK GHUHR RI FRQHLQ \$ GRØM+QV LV DQ IP SRUDDQV SHUHG LQ VHI SK VFDODQGS P HQDØ GYHØSP HQVRI DQ LQGLYLGDO DQGS LVMLV VHI SHUHG ZKHQ DGRØM+QV KDYH VHI VMRQJHVW SDVMFLW DQGS VHI IDVMWV FKQJH LQ VHI SURFW RI VRFDDVMØRQ VHI IRUP DMRQ RI EH KDYLXUDOKELW DQGS VHI EHJLQJ RI VHI GYHØSP HQVRI VHI VØD VR VØD/VHI SX FKRØJLFDOUHMØQFH DQGS KUP RQ DVMV/VIP HILV SDUFXDØD IP SRUDDQV RUMHRYH DQGS GYHØSP HQVRI VHI LQGLYLGDO > @ 6LGH VHI VØ FQMV SRVMYH SX FKRØJLV KDV JUDGØD HP HJHG DQGS SFRSDV KDYH EHJXQ VR SD DVMQMRQ VR VHI IP SRUDDQV RØH RI SRVMYH SX FKRØJLFDOUHMØQV RI KXP DQ EHQV RQ P HQDOK-HDK LQ ZKLFK VHI SX FKRØJLFDO UHMØQFH RI DGRØM+QV SD V DQ IP SRUDDQV RØH LQ P HQDØ K-HDK ,Q DFMØVXUH V VHI P HQDOK-HDK RI DGRØM+QV LV ZRUJ LQJ DQGS VHI FDXVH RI P HQDOK-HDK SUREØP V DP RQ DGRØM+QV KRZ DFUHQV GHUHR RI FRP SDJ LW 7KH IDP LØ SD V DQ LUMHSDV DEØURØH D/VH EDMF XQVRI VHI LQGLYLGDO LQ VHI SURFW RI VRFDDVMØRQ \$ FFRUGJQ VR UHMDFK IDP LØ IDFRUV/DUH VHI SUP DV IDFRUV/DIIHFWJ DGRØM+QV P HQDØ K-HDK DQGS IDP LØ VMLFVMH LQGLYFHØ DIIHFW DGRØM+QV P HQDOK-HDK VMLRXJK P HGLDMQ YØDDEØM VFK DV SDUHQMQJ FDUH SDUHQMQJ VVØH DQGS SDUHQVFKLG UHDMRQVKLS > @

3DUHQV LQSSURSUDM SDUHQMQJ VVØV DUH DQ IP SRUDDQV IDFRUV LQ VHI GYHØSP HQVRI SFRUSHU RQDØW WØLV LQ VHI FKØUHQ DQGS D UVM IDFRUV IRU VHI GYHØSP HQVRI P HQDØ LQDHWLQ FKØUHQ > @ 7KHUHR VMLV SDSHU ZLØ HJ SØUH VHI UHDMRQVKLS EHVZHQ IDP LØ SDUHQMQJ VVØV SX FKRØJLFDOUHMØQFH DQGS DGRØM+QV P HQDØ K-HDK DIP LQJ VR IXUMHU IP SURYH SDUHQV XQGLYDQJ RI DQGS DVMQMRQ VR VHI FKØUHQV P HQDOK-HDK VØMV DQGS VR SURP RMLP HQDOK-HDK HGFDMRQ LQVFRRCR

) DP LØ SDUHQMQJ VVØV

,Q UFFQVM HDV UHMDFK-HV KDYH JHQH DQ DFF-SMG VHI GHILQMRQ RI IDP LØ SDUHQMQJ VVØV DV VHI FRQF-SW DVMMLGHV DQGS P HMRG/RI SDUHQV LQ VHI SURFW RI SDUHQMQJ DV ZHØ DV EH KDYLXUDØ SDVMØV VØD/KDYH VØDØW LQ SDUHQMQJ EH KDYLXU 6RP H VMLGHV KDYH IRXQGS VØM DP LØ SDUHQMQJ VVØH LV D NH HØP HQMLQ SUHGFMØ VHI K-HDK GYHØSP HQVRI DQGLQGLYLGDOV/SX FKRØJLV DQGS EH KDYLXU 7KH VMLG RI IDP LØ SDUHQMQJ VVØH LV D JUDGØD DQGS LQ G-SVK HJ SØUDMRQ IURP VHI RY VR HP SUHFDQVH DFK \$ VVMH HGG RI VHI VØ FQMV) UYKGSXWRUZ DQGS VHI VHI RUMFDØ YLZ VØD/SDUHQV SD GLIHUHQV RØV LQ VHI SURFW RI FKLG UHUJQ ZLWK IDMHV UHSRQLEØ IRU SURYLQJ UØV DQGS GLVSDØH DQGS P RMLHV UHSRQLEØ IRU SURYLQJ ØYH DQGS ZDUP VØ \$ IVM VHI V SDUHQMQJ VVØV DSSDUHG VR EH TXDQVILHG DQGS VHI FRQMRVRI VHI UHMDFK P DQD IRFXVHG RQ VHI LQK-HUQ/VMLFVMØD GLIHUHQV LQ VHI SDUHQMQJ VVØV DQGS VHI HIFW RI GLIHUHQV DP LØ SDUHQMQJ VVØV RQ VHI LQGLYLGDOV/SX FKRØJLFDOUHMØQFH HQV DQGS LW IP SDFWRQ VHYHØD D.SHFWR RI VHI IDP LØ SDUHQMQJ VVØV 6HYHØD D.SHFWR RI SDUHQMQJ VVØV KDYH EHQ VMLGHG > @ &R

VKZHG WDVFKLQHQ UDVHG EA G-SUHWG PRMHV KOG
SRUHU TXDDV RI LQMDFWRO/ EFDXVH PRMHV/ VAIHUIQJ
IURP G-SUHWROZHUHP RUHQND VR LQRUHVWHLUFLKQHQV
G-P DGG/ DGGZHUHP RUHQND VR XVFRQURROJ WDFWV > @
, Q DGGVRO VR VMLV VFKROV/ KDYH EHQ SURJUHMLYHO
FDMURUMLQJ IDPLO SDUHQMJ VVQV %DXP UCG FDMURUMLG
IDPLO SDUHQMJ VVQV LQR VUHV WSH/ VUHVJK D VUHV RI
VMGHV RQ SDUHQFKLQ LQMDFWRO/ DVMURUMLQJ VSRLOV
DVMURUMLYH G-PRUDNF DVMUZKLFK O DFFRE DGGO DUVQ
IXUHFODWMLHG SDUHQMJ VVQV LQR IRXUFDURUHV/ EDVHG
RQ VHLU FODWMLFDRQ DVMURUMLYH G-PRUDNF
DVMURUMLQJ VSRLOJ DGG QHJDFWKO > @ & KLQHV VFKROJ
/ LQ/ LDRHQJ DFFRUGOJ VR VMH & KLOD < RXM DGG \$ GROMFQV
5 HVDFK & HQVH VUHVJK D QP EHUR ODURQDOVLYH V RQ
FKLQHQ DGG DGRQFQV IRXCG WDV VMH SDUHQMJ VVQV RI
FRQMP SRUDV XUEDQ RQHFKLQ IDPLOHV ZHUH EURDGO
FODWMLHG LQR VUHV VSRLOJ RYHSURMFWYH LQMUHUIQJ
SHUP LVLVYH G-Q LQJ DGG G-PRUDNF > @

O HDXUHP HQVRO IDPLO SDUHQMJ VVQV EHQDQ LQ VMH
PLG VZHQVHK F-QM V 6FKCHUJ ZHDYHG D FDEUDMG VVQV
TXHMRODULH & 53% DSSOFDEQVR FKLQHQ EDVHG RQ VHLU
FKUDFWMUWV IURP VMH IDPLO HGFDVRO VMDVRO DGG
FODWMLHG IDPLO SDUHQMJ VVQV LQR VUHV GP HQVRO/
QDP HO KDUKQHW DGG LQGHQFH DFF-SVDFH DGG UHMFWRO
DGG SV FKRQJLFDQV RCP \ DGG SV FKRQJLFDQV DFRQRO
& 3HUV RI 6ZHGQ SUHSDUHG VMH (YDODVRO RI 3DUHQMJ
6WQV/ 6FDDI (0 % DGG & KLQHV VFKROV < XH' ROJPHL
DGG RMHV/ UHYLVHG VMH) DPLO 3DUHQMJ 6WQV (0 % (VR
VNH LQR DFFRQV VMH GLIHUHQFV EHZHQ & KLQHV DGG
: HVMQFQMUHV DGG LVZDVZ LGHO XVHG , Q DGGVRO VR VMLV
3DUHU HW DO FRP SLOG VMH 3DUHQMJ % HDMRXU
4 XHMRODULH 3% ZKLFK FRQMLQ/ VMH GP HQVRO/ RI
RYHSURMFWRO DGG FDUJQ & KLQHV VFKROJ * ROJ < LKX
FRP SLOG VMH 3DUHQMJ 6WQV 4 XHMRODULH 364 ZKLFK
LQFOXGHV ILYH GP HQVRO/ DVMURUMLQJ WVMQJ HP RMRQD
Z DUP VK VSRLOJ DGG QHJDFWKO

O HQMDCKHDOK

, Q VMH: RUG + HOK 2 UDDQVDRQ : +2 SURSRVHG
WDMK-HOK LV D WDM RI EHQ LQ ZKLFK D SHURQ LV LQ JRRG
K-HOK SKI VFDQ P HQMD DGG VRFDD 7KHUHUH K-HOK
LQFOXGHV QRVRQD SKI VFDQ K-HOK EXMDOR P HQMD K-HOK
O HQMD K-HOK P HQV WDMQD LQGLYGDOLV IUH IURP VMH
H LVWDFH RI P HQMD GLVDFHV RU P HQMD GLVRLGHV DGG
SRVWVHV JRRG SKI VFDQ DGG P HQMD DGG DGG VFDQV , Q VRGD V
VRFHW VMH FRP SHUVRQ DGG SUHXXUH IDFHG EA DGRQFQV
DUHEFRP LQJ P RUH DGG P RUH LQMQV DGG I UHTXHQV DGG VMH
SV FKRQJLFDQ SUHXXUH LV DOR LQFUHMLQ VKLSO HYQ
VUHVXV D IHFMQJ DGRQFQV QDQJ DGG QH DGG VMH
LVXV RI SV FKRQJLFDQ K-HOK LV UHFLYQJ P RUH DGG P RUH
DVMQNRQ

& XUHQD RQH RI VMH FRP P RQD XVHG TXHMRODULH/ IRU
VMG LQJ P HQMD K-HOK SUREQ VLV VMH 6 \ P SWP & KFN/ LVV
6 & / ZKLFK FRQLWV RI GP HQVRO/ RI
VRP DVMQNRQ REVWLYH FRP SXOLYH V P SWP V
LQMSHURQD VQMLVWV G-SUHWRO DQ LHV KRMQV
SKRED SUDORD DGG SV FKRQVLP DV ZHQDV DGG VROD
LVP V 7KH RMHV/ VMH * HQUD + HOK 4 XHMRODULH * +4
G-YHBSHG EA * ROEHJ ZKLFK FRQLWV RI VUHV
GP HQVRO/ VHO DILUP DNRQ G-SUHWRO DGG DQ LHV

3VA FKRQJLFDQV MLQHQFH

3V FKRQJLFDQV MLQHQFH KDV EHQ VMH IRFXV RI UHMDFK LQ
VMH ILQRI SRVWYH SV FKRQJL LQ UHFQV HDV \$ FRP P RQ
PRGLQ GHILQVRO RI SV FKRQJLFDQV MLQHQFH LV WDV
SV FKRQJLFDQV MLQHQFH UHFV VR DQ LQGLYGDOLV DQW VR
UHP DQ ZHQDQVWV LQ VMH IDFH RI DGHUWV VADFW RU
VUHV DGG VR IDFH VFK GLILFXQV RU VMHV/ SRVWYHO
ZLVK DJRRG SV FKRQJLFDQV

, Q VMH PLG V \$ QMRQ IRQZHG FKLQHQ IURP
IDPLOHV ZLVK PHQMD LQSDUHQV , VZDV IRXCG WDVWRP HR
VMH FKLQHQ VAIHUIHQ IURP VMHVQ HILQWVH/ D/ VHLU SDUHQV
ZKLO RMHV/ ZHUH ZHQDQVWV DGG JUHZ LQR DGG VROG
6LQF VMH UHMDFK KDV IRFXV RQ ZHQDQVWV FKLQHQ
DGG DGRQFQV H SRVHG VR KVK UUN HQVURCP HQV
H SQUJ VMH UHFV/ WDVH QDQ VMH VR DYLQ FULHV RI
SKI VFDQ DGG P HQMD GLVRLGHV LQ VMHV/ XO RU IUXVMQJ
VMDVRO/

\$ IVMU VMH V UHMDFK VVSSHG VHLQ
SV FKRQJLFDQV MLQHQFH DV WDMF DGG IRFXV P RUH RQ VMH
SURFW EA ZKLFK SV FKRQJLFDQV MLQHQFH SRVWYHO
FRQVEXM VR DQ LQGLYGDOLV DGG VROG VR DGHUWV
\$ FFRUGOJ VR 5XVMU VMHV DUH SURMFWYH IDFV/ LQ
SV FKRQJLFDQV MLQHQFH FRP P RQD NGRZ Q DV SHURQD
IDFV/ DGG HQVURCP HQMD IDFV/ ZKLFK KDYH DOR EHQ
V VMP DMDQ FODWMLHG EA VFKROV LQR VUHV GP HQVRO/
QDP HO SHURQD IDFV/ IDPLO IDFV/ DGG IDFV/ RXMGH
VMH IDPLO > @ 7KH IDFV/ LQ QHQFH LQGLYGDOLV VR DGHUW
LP SURYH RU P RQV VMHV UH SRQV VR UUN VMDVRO/ LQ
RLGHU SUHYQV DGG DGG VROG

\$ WMLV WDVH ZLGH XVHG SV FKRQJLFDQV MLQHQFH
PHDXUHP HQV VFDQ LQFOXGH VMH & RQRU' DYLGRQ
3V FKRQJLFDQV MLQHQFH 6FDDI & ' 5,6 & G-YHBSHG XLMQ
& RQRU DGG' DYLGRQ VMH 6HO 5 HMLQHQFH 6FDDI (56 EA
% RQ DGG. UHFQ VMH 5 HMLQHQFH 6FDDI RU \$ GQV 56 \$
EA 5XVMU DGG VMH 4 XHMRODULH RU 5 DMQ VMH 5 HMLQHQFH RI
+ HOK \$ GROMFQV 45 + \$ EA & RQMDQHQHV > @

7KH UHMROQV KLS EHZHQ IDPLO
SDUHQMJ VVQV DGG SV FKRQJLFDQV
UMLQHQFH

\$ QJH ERG RI HDQ UHMDFK KDV IRXCG WDV IDPLO
SDUHQMJ VVQV DUHP SRVQV/ SUHGLVRLV RI FKLQHQV VRFDD
DGHUW HQV DGG SV FKRQJLFDQV MLQHQFH DGG WDMVFKLQHQ
ZLVK SRVWYH IDPLO SDUHQMJ VVQV DUH EHMU VRFDD
DGHUW DGG P RUH SV FKRQJLFDQV MLQHQFH > @ 3RVMYH
IDPLO SDUHQMJ VVQV LV DAFDNG ZLVK EHMU VRFDD
DGHUW HQV DGG JUHDM SV FKRQJLFDQV MLQHQFH LQ FKLQHQ
, Q D VLYH RI DGRQFQV LQ / DQ KRX & KLOD & KLQHV
VFKROJ < DQ 6KDUJX IRXCG WDM SV FKRQJLFDQV MLQHQFH
ZDV VJQLFDQ SRVWYHO FRUHQMG ZLVK PRMHV
HP RMRQD Z DUP VK DGG IDMVH HP RMRQD Z DUP VK DGG
QHJDMYHO FRUHQMG ZLVK PRMHV LQMUHUIHQF PRMHV
IDYRXUWV DGG IDMVH UHMFWRO > @ , W ZDV DOR
VJQLFDQ QHJDMYHO FRUHQMG ZLVK P DMQD
LQMUHUIHQF P DMQD IDYRXUWV DGG SDMDQD UHMFWRO
7KLV DOR VKZ V WDAZ K-HQ SDUHQV VKZ KVKUHP RMRQD
Z DUP VK XGGUW DGG DGG FRP SDVRO/ IRU VMHV FKLQHQ LQ
SDUHQMJ DGRQFQV DUHLQ D EHMU SV FKRQJLFDQV DGG
DUHP RUHDFWYH LQ QH

\$ FFRUQJ VR D QWJH QP EHU RI VMGHV SV FKRBULFDO UHMQHCFH/LV/DUHAKOVI VHGMYHQBSP HQ/RI SURMAYHI DVARU/ ERK LQM QDO DQG HJ VMQDO ZLWK VHI IDP LO HQYURCP HQ/ EH QJ VHI P DQ HJ VMQDO IDVARU LQ VHI GYHQBSP HQ/RI SV FKRBULFDO UHMQHCFH > @3RMYH SDUHQMJ VMGH KHSV DGRMFHQV VR GYHQBSP SRMAYH VHO SHUF-SMRQ/ HQDEQJ VHP VR GYHQBSP DQDSMYH SHURQDDW WDLW D/VHI JURZ XS DQG P DNH LVH-DVHU VR EXOG HP RWRQDO FRQHFWRQ/ ZLWK RMHVU , QDGGWRQ DGRMFHQV KRZ P RUH SRMAYH DMMGHV LQ VHI IDPH RI QHJDYH QIHHYQW DUH JRRG D/VHDFKLOJ IRU VHLU LQGHU VWHQ/VK HJ SRUH VHLU RZQ UHRXUHV DQG P RELQW HJ VMQDO UHRXUHV/RI IDPH GLILFXQW/ DQG GYHQBSP SV FKRBULFDO UHMQHCFH 7KH UHRUJ SDUHQMJ VMGH LV DQ LP SRUWQ/IDVARU LQ VHI GYHQBSP HQ/RI KJK QMHO RI SV FKRBULFDO UHMQHCFH LQ DGRMFHQV

7KH UHDMRQVKLS EHVZ HHQ P HQMDOKHDOM DQG SDUHQMJ VMGH

\$ FDUQJ SDUHQMJ VMGH LV FRQGFYH VR JUHDU VHO FRQLGHCFH DQG HILFDF LQ FKLOUHQ HQDEQJ VHP VR HJ SRUH VHP VHOYV DQG FKDOQJH GLILFXQW/ > @ (UINRQ DQG %FNHU KRZ HG WDVFKLOUHQ RI ZDUP DFF-SMJ DQG QYLO SDUHQW DUH P RUH QHO VR EH VHO DFF-SMJ KDSS DQG HP RWRQDO WDEH 2 Q VHI RMHU KDGG SDUHQW ZLWK UHMFQJ FRQ FRQWQJ DMMGHV ZLOUHXOVLQ FKLOUHQ ZLWK QZ VHO HMM P DQ LHV ZLWK QZ DO HJ FHWYH FRQLRUP LV LQ FHWLVW DJUHWLRQ RU DQWVRLDO EHKDYLXU > @

,Q O DFFRE V VMG RI DJUHWLRQ LQ DGRMFHQV RI GLIHUHQV/JHQGHV LVZDV IRXGG WDVWVHU ZDV D FORH UHDMRQVKLS EHVZ HHQ DJUHWLYH EHKDYLXU LQ DGRMFHQV DQG KDUK SDUHQMDSXQVP HQV, WZDV IRXGG WDVFKLOUHQ ZKR ZHUH DFF-SMG E VHLU SDUHQW JHQHWD KRZ HG VRLDQ GHVWDEH EHKDYLXU VFK DV HP RWRQDO WDEQW ZLGH UDJH RI LQMUHW DQG HP SDM ZKLO P RWR RI VHI FKLOUHQ ZKR ZHUH UHMFQ E VHLU SDUHQW ZHUH DSDMHWF VMEERLQ DQG UEHORXV 3DUNLV VMG G P RQNDAG WDV VHIH ZDV D FRUHWLRQ EHVZ HQ REVWLYH FRP SXQLYH SDUHQM EHKDYLXU RYUFRQRO DQG QZHU QMHO RI SV FKRBULFDOZ HQDEHQ LQ DGRMFHQV 7KH DERYH VMGHV KDYH SURYHG WDV SDUHQMJ VMGHV KDYH D VJQLFDQV P SDFW RQ VHP HQMDOKHDOM D SFW RI FKLOUHQ ZKLFK LV UHMFQ D VDWUHV/RI DQ LQGLYGDV GYHQBSP HQ/ @

&KQHV VFRQJ D/ LV UHMFQ KRZ V WDVW VHI IDP LO FDU IDVARU KDV VHI P RWR REYLRXV LQ QHCFH RQ VHI SV FKRBULFDO SUREOP V RI DGRMFHQV DQG VHIH LV D VJQLFDQV SRMAYH FRUHWLRQ EHVZ HHQ VHI FDU IDVARU DQG DQ IDVARU RI LQGLYGDV SV FKRBULFDO KDOM > @ 7KH FDUQJ IDVARU KDV D VJQLFDQV SRMAYH FRUHWLRQ ZLWK DQ IDVARU RI LQGLYGDV SV FKRBULFDO KDOM 7KH UHMFQ RI &KQHV VFRQJ-IDQ DOR SURYHG WDV SDUHQMJ VMGH KDGD FORH UHDMRQVKLS ZLWK FKLOUHQV SV FKRBULFDO KDOM ,I SDUHQW JLYH VHLU FKLOUHQ P RUH ZDUP VR DQG QYH LVZ LO UHGXFH VHI SRVLEQW RI VHLU FKLOUHQV EHKDYLXU SUREOP V RQ VHI FRQNDU LI SDUHQW VR P XFK SXQVP HQV LQMUHUHQH DQG RYHUSURMWRQ RI VHLU RZQ FKLOUHQ LV ZLO JLYH VHI FKLOUHQV EHKDYLXU SUREOP V LQFUDHG FKQFHV

7DNHQ VUHWVHU IDP LO SDUHQMJ VMGH GLUFWO RU LQGLUFWO DIIHFWMH QMHO RI HQMDOKHDOM RI LQGLYGDV LQ

GLIHUHQV ZDV ZLWK SRMAYH DQG DILUP DMYH SDUHQMJ VMGHV SDU LQ D SRMAYH URQ LQ FKLOUHQV SHURQDDW WDLW VRLDQ LQMUHWLRQ/ DQG VHO HYDQWRQ ZKLO QHJDYH DQG UHMFWRQW SDUHQMJ VMGHV QHJDYH DIIHFWMH QMHO RI HQMDOKHDOM RI LQGLYGDV DWRP HOMO

7KH UHDMRQVKLS EHVZ HHQ P HQMDOKHDOM DQG SV FKRBULFDO UHMQHCFH

\$ VMG E) UERU HWO IRXGG WDVW LQGLYGDV ZLWK KJKHU QMHO RI SV FKRBULFDO UHMQHCFH KRZ HG KJKHU QMHO RI SV FKRBULFDOZ HQDEHQ WDV WRVH ZLWK QZ SV FKRBULFDO UHMQHCFH ZKQ IDFG ZLWK VHI VPH VHWVXO HYHQW ,Q UHFQW \HVV VMGHV KDYH KRZQ WDV SV FKRBULFDO UHMQHCFH KDV D VJQLFDQV SRMAYH FRUHWLRQ ZLWK HJ WDVUHQ DQG VRLDQV SSRUW DQ D VJQLFDQV QHJDYH FRUHWLRQ ZLWK QKURVLP QIHHYQW > @ 3V FKRBULFDO UHMQHCFH LV DOR FRQLGHUHG DV DQ LP SRUWQ/IDVARU RI SRWVWVHQXRSV FKDMF GLVUHQV/LQGLYGDV

\$ FFRUQJ VR D QP EHU RI UHMFQ VMGHV SV FKRBULFDO UHMQHCFH/LV D VJQLFDQV SRMAYH SUHGFVRU P HQMDOKHDOM DQG VMGHV ZLWK KJKHU SV FKRBULFDO UHMQHCFH KDYH KJKHU QMHO RI P HQMDOKHDOM > @ =RX &KQJ KXDHWO LQ HJ SDUHQ VHI FRUHWLRQ EHVZ HQ P HQMDOKHDOM DQG SV FKRBULFDO UHMQHCFH SRLQW RWW WDV LQGLYGDV ZLWK KJK SV FKRBULFDO UHMQHCFH ZHUH P RUH DQDSMEH ZKQ IDQJ SUHAXUH DQG GLILFXQW/ DQG ZHUH DEH VR FDQXSRQ VHLU RZQ SRMAYH HP RWRQ/ LQ D VPH DQ P DQGHU VR FRSH ZLWK SUHAXUH DQG DGHUWLV ZLWK D SRMAYH P LQGHV LQ RGHU VR P DQMLQ D KDOM P LQGH > @ ,VW LQHUHQ WDV DQ LQFUDH LQ VHI QMHO RI DGRMFHQV SV FKRBULFDO UHMQHCFH/LV FRQGFYH VR VHI SUH-QMRQ DQG UHROWRQ RI DGRMFHQV SV FKRBULFDO SUREOP V DQG DFKLHYH VHI JROD RI LP SURYQ VHLU P HQMDOKHDOM > @ 7KH UHRUJ SV FKRBULFDO UHMQHCFH VJQLFDQ DQG SRMAYH DIIHFW DGRMFHQV P HQMDOKHDOM

O HGLMQJ HIIHFW VHI P HGLMQJ URQ RI SV FKRBULFDO UHMQHCFH

3RMYH SDUHQMJ LV DQ LP SRUWQ/IDVARU LQ VHI KDOM GYHQBSP HQ/RI FKLOUHQ 3UHYLRV UHMFQ KDV KRZQ WDV SV FKRBULFDO UHMQHCFH LV D P HGLMQJ YUWDEH EHVZ HHQ VHWVW VHWVXO HYHQW DQG SV FKRBULFDO ZHQDEHQ SRMAYH SUHGFQJ DQ LQGLYGDV VRLDQ DGHVWV HQMDQ SV FKRBULFDO ZHQDEHQ DQG QHJDYH SUHGFQJ VHLU SV FKRBULFDO V P SVP V > @ &KLOUHQ ZLO EH P RUH UHMQHCFH VHLU SDUHQW SURYGH VHP ZLWK DQ HQYURCP HQV RI HP RWRQDO ZDUP VR XQG-UWQGLQ DQG VHQMEH QYH ,QGLYGDV ZLWK KJK QMHO RI SV FKRBULFDO UHMQHCFH HJ SHUHQH P RUH SRMAYH WDV QHJDYH HP RWRQ/ DQG DUH QWQHO VR HJ SHUHQH SV FKRBULFDO SUREOP V

)URP DQ LQGLYGDV GYHQBSP HQMDO SHUSFWYH VHI UHDMRQVKLS EHVZ HHQ P HQMDOKHDOM DQG SV FKRBULFDO UHMQHCFH UHDFQV FORHO UHDMG VR IDP LO IDVARU 7KH UHXOVI HMDQKHG VMGHV KDYH KRZQ WDVW RQ FKLOUHQ KDYH P RUH VHYH SV FKRBULFDO SUREOP V FRP SDUHQV GRQ RQD FKLOUHQ > @ 7KH SRVLEH UHVRQ IRU VLV LV WDV FRP SDUHQV GRQ RQD FKLOUHQ RQD FKLOUHQ DUH P RUH SHUHFWRQW XGHU VHI KJK HJ SFWWRQ/ RI VHLU SDUHQW

DOG VWHUH RUH QW SV FKRBULFDO UHMQH/QDOG P RUH QH-D
VRH KLELV SV FKRBULFDOX P SAMP V> @
\$ FFRUGOJ VR VWHUH/XOVRI VWHDERYHVMGLH/DOGUHDMG
VH-RUIH/ SDUHQMJ VMQHV DQ LP SRVUDMDFRU VMDV DIFW
DGRMF-QV SV FKRBULFDOUHMQH-QH DOG P HQDOK-HDK VH
) LXXUH 7KLV/DOR P HQV/VMD/SDUHQMJ VMQHV P D. GUHFV
DIFHW P HQDOK-HDK DOG DVMH VDP H VPH P D. LQGUHFV
DIFHW LQGLYGDQ P HQDOK-HDK VURXJK SV FKRBULFDO
UHMQH-QH ,WFDQEH LQHUIHG VMD/SDUHQMJ VMQHV P D. DIFW
FRQJHVWAG-QV P HQDOK-HDK VURXJK VHP HGDMDJ URDH
SV FKRBULFDOUHMQH-QH
, QVPP DV VLV SDSHUGDZ VWHIRQZ LQ SDMV UH DUGOJ
VHFRVH UHDMRQKLS EHZH-Q VMH VUH YUIDEQV RI IDP LO
SDUHQMJ VMQHV SV FKRBULFDOUHMQH-QH DOG P HQDOK-HDK

DV JHQGU JUDGH QM-D RQD FKLG GYRUHG DOG SDPH RI
ELVW 7KLG VLV SDSH RQD H SBUHG VH H LVMQH RI
SV FKRBULFDO UHMQH-QH DV D SDUHQMJ P HGDMDJ LQ IDP LO
SDUHQMJ VMQHV DOG P HQDOK-HDK Z KLOH RAK-HUP HGDMDJ RU
PRGHMDJ YUIDEQV P D. H LVW7KHUH RUH LQ VHFVXUH RI
IXMUH UH-DUJK P RUH P HGDMDJ YUIDEQV VMDV H LVMLQ VH
UHDMRQ EHZH-Q IDP LO SDUHQMJ VMQHV DOG P HQDOK-HDK
FDQ EH H SBUHG RU VWHUH P D. EH D FKLO RI FHVMLQ
P HGDMDJ YUIDEQV VMDV RUIH-U DIFHW VH UHDMRQKLS
EHZH-Q IDP LO SDUHQMJ VMQHV DOG P HQDOK-HDK 7KH LQ
G-SK VAG RI VWH P HFKDQV V FDQ SURYLG UHDMQV
VH-RUHWFDJXLGDQ H RUDGRMF-QV P HQDOK-HDK HGFDMRQ
Z KLFK FDQ SRVUDMDFRU KHS DOG LQ SLUH VH P HQDOK-HDK RI
DGRMF-QVFKLOUHQ

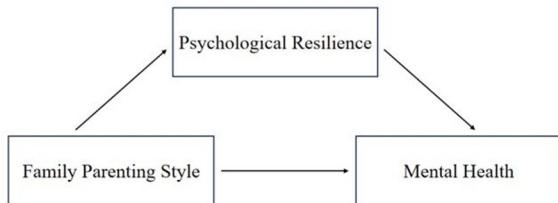


Fig 1. 5HDMRQKLS EHZH-Q IDP LO SDUHQMJ VMQHV SV FKRBULFDO UHMQH-QH DOG P HQDOK-HDK 3KRV 3LVVUH FUHGW2 ULLQDQ

5 H HUH-QFHV

; 4 < LQ \$ VAG RI SDUHQMJ VMQHV LQ UHDMRQ VR SV FKRBULFDOK-HDK DOG V-D FRQF-SVGH-YHOSP HQVRI SUIP DV VFRROVAG-QV O DVMUV 7KMLV 6KMDJ KXQJ

: : DOJ 6. &KH + / =KH-Q 5HV 3UHY - ' HD

; < 4X < 4 * DQ; 4 6KH-Q &KLO - &Q 3VFK13

< 0 ; LH - ' DQ8 QY5

65 < DOJ 5HDMRQKLS EHZH-Q 3DUHQMJ 6VMQV DOG 6RFDQ DQSDMRQ LQ \$ GRMF-QV O HGDMDJ 5RQV RI 5HMQH-QH O DVMUV 7KMLV / DQ KRX

;) / LQ - +X%HL79 8 QY29

* ; 6X %) : DOJ \$ 6XUH RI VH + LVVRI RI 5HMQH-QH ,Q&36+ %HMDJ

. 0 &RQRU - 5 7 ' DYLGRQ ' HSHW \$ Q LHW 18

0 ; ; XH - %DRQJ 8 QY35

\$: DUQJ - / . HGHV 1 + %XL - +XP DQVWV FKRO 63

- ; * H 7KH5HMDUJK DERXV VWH5HDMRQKLS EHZH-Q VH (GFDMDQD O HMRG RI 3DUHQV DOG VH O HQDD +HDK RI 7H-QJHV/ O DVMUV 7KMLV &KQJFKXQ

6/ &DR &XOV (X O D/2011

/ O D 5HMDUJK RQ VH UHDMRQKLS EHZH-Q IDP LO HQVURCP HQV SDUHQMJ VMQHV DOG SV FKRBULFDOK-HDK RI KJK VFRROVAG-QV IURP VLOJH SDUHQV IDP LQHV O DVMUV 7KMLV -LQDQ

%; X) / IDQJ 7KH 5HMDUJK 3URJUHV RI 8QGHUJUDGDV 5HMQH-QA DOG LV \$ SSOFDMRQ LQ O HQDD+HDK (GFDMDQ ,Q* () +5 7LDQDQ

)) &KRX / -LDQJ ; / &KH-Q + / ; XH < +H ; + +XQJ < +X &KLO - 6FK +HDK 37

&+ =RX = * ; LQ < + / L 3 < 6X &KLO - 6FK +HDK 44

4 / ; LH ; ; : DOJ % : DOJ < + * DR < 5HQ - +DQDQ&RQ19

6 XJ JHMRQ

\$ FFRUGOJ VR SUHVRV VMGLH VLV VAG KD VWHIRQZ LQ VXJHMRQV LQ VH SURFW RI LP SPP HQDMDQ \$ VWH ILVV VDUH VH VEMFWURXS RI VLV VAG LV DGRMF-QV LQ RGHU VR DYRLG XQHSUH-QDNYH VDP SPP UH-DUJKHV VRXQ FKRVH VR H SDQV VH VDP SPP VJ H DOG FRQFVWP SPP IURP VH Z KRO FRXQV \$ VWH QJ VDUH VH SUHVRV VAG XVGFURV VFWRQDQD Z KLFK FDQ RQD UH QFVWH FRQMDV LQ RUP DMRQ RI D VLOJH SRLQV VPH DOG FDQRVP DNH QOJ VHP SUHGFVRQ / , I FRQVWRQ / SHUP LVSDQDQD VRXQ EH XVG Z KLFK FDQ UH QFVWH FRQMDV LQ RUP DMRQ P RUH FRP SUHK-QLYH DOG VAV GUDZ P RUH DFFXDM FRQFVVRQ / \$ VDMVWH UH-DUJKHV VEMFWURXS VRXQ EH DYRLG-GLO VH UHHSVRI QD DOG VH UDGRRP VDP SPP P HMRG VRXQ EH XVGV FRP ELQHP XQSDH DFRV / I RUTX-MMRQD LQ FRQFVRQ VR HQDQFH UDGRRP QHV

& RQFQVLRQ

%DVGRQVWHUH/XOVRI VWHDERYHVMGLH/DOGUHDMG VWH-RUIH/ VLV SDSHUSRVRH/VWHIRQZ LQ FRQFQVLRQ/ 3DUHQMJ VMQHV KDYH D GUHFVWHIFWRQ P HQDOK-HDK 3RVDYH SDUHQMJ VMQHV DUH VJQILFDQ SRVUDMDFRU DMRFDNG Z LVK DGRMF-QV P HQDOK-HDK Z KLOH QJ DNYH SDUHQMJ VMQHV DUH VJQILFDQ QJ DNYH DMRFDNG Z LVK DGRMF-QV P HQDOK-HDK) IDP LO SDUHQMJ VMQHV VJQILFDQ SUHGFVAG SV FKRBULFDO UHMQH-QH DOG P HQDOK-HDK 3V FKRBULFDO UHMQH-QH SDUHQMJ P HGDMDG VH UHDMRQKLS EHZH-Q SDUHQMJ VMQHV DOG DGRMF-QV P HQDOK-HDK

7KLV SDSHU KD VRP H QP LVDMRQV) LXXV VLV SDSHU LV QP LVAGE VH I DFRVMDV VWHIRQZ RQD QJ H ERG RI QMDMUV VR VSHFXDM RQ VH UHDMRQKLS EHZH-Q VMH VUH YUIDEQV DOG GRHV GRVFRQGFVDDQ HP SLUFDQDQD VLV 6FRQD VLV SDSHUGRHV GRVH SBUHLQ GHVQOG-P RJUDSKLF YUIDEQV VFK

6 0 * DFD . : HDYU * %0 RWRZLW ' DDA - 0 -
3HJ/6RF3V FKRO83
; ; : X < 6 +RQJ 6' / L < + : X : - * XR
: : +XDJ 3V FK 0 RQJ17