



-RXUQDO RI &RPPXQLW\ DQG 3XEOLF +HDOWK 1XUVLQJ

2,

Uki pkhkecpv "Cuuekcvkxg" Hcevqtu "hqt" J { rgtvgpukqp "Coqpi" Pgy "WU" Ko oki tcvu<
Cp "gzrnqtcvkqp" qh"vjg" 4225" Pgy "Ko oki tcvu" Uwtxg {"*PKU+" Fcvc

0DULH \$QQH 6 5RVHPEHUJRKQVRQ /DQDHOFRDQDUMRULH & OF&XOODJK
'HSDUWPHQW RI 6\ VWHPV 3RSXODWLRQV DQG /HDGHUVKLS 8QLYHUVLW\ RI 0LFKLJDQ 6FKRRO RI 1XUVLQJ
3XEOLF +HDOWK DQG +HDOWK 6FLHQFHV 8QLYHUVLW\ RI 0LFKLJDQ)OLQW :LOOLDP 6 :KLWH %OGJ
1DWLRQDO ,QVWLWXWH RQ \$JLQJ 1, \$ 1, + ,53 %DOWLPRUH 86\$
2FFXSDWLRQDO +HDOWK 1XUVLQJ 3URJUDP 8QLYHUVLW\ RI 0LFKLJDQ 6FKRRO RI 1XUVLQJ 1 ,QJDOOV
&RUUHVSRLQGLQDXXWSPQH 6 5RVHPEHUJ 3K' 01 51 \$VVLVWDQW 3URIHVVURU 'HSDUWPHQW RI 6\ VWHPV
6FKRRO RI 1XUVLQJ 86\$ 7HO (PDLO VDQRQ#XPLFK HGX
5HFHLYHG ODDWH \$FFHSWHG \$SDWH 3XEOLVKHG \$SDWH
&RSULJKW 5RVHPEHUJ 0\$6 HW DO 7KLV LV DQ RSHQ DFFHV DUWLFOH GLVWULEXWHG XQGHU WKH WH
XQUHVWULFWHG XVH GLVWULEXWLRQ DQG UHSURGXFWRQ LQ DQ\ PHGLXP SURYLGHG WKH RULJLQDO D

\$EVWUDFW

%DFNJUR, PGGJUDQWV PDNH XS D ODUJH QXPEHU RI WKH 86 SRSXODWLRQ DQG DU
VXFK DV K\SHUWHQVLRQ D PDMRU SXEOLF KHDOWK FRQFHUQ /LWV OH LV NQRZQ
DPRQJ UHFHQW 86 LPPLJUDQWV

0HWKRG LQJ WKH 1HZ ,PPLJUDQW 6XUYH\ 1,6 GDWD ZLWK D VXEVDP SOH RI Z
:H UDQ GHVFULSWLYH VWDWLWLVFV DQG PXOWLYDULDWH DQDO\VLV WR DQDO\JH W
JHQGHU DJH ZHLJKW DQG VPRNLQJ ZLWK K\SHUWHQVLRQ DV WKH RXWFRPH YDUL

5HVXOW\ RI RXU VDPSOH KDG K\SHUWHQVLRQ &RQWUROOLQJ IRU RWKHU
ORZHU RGGV RI K\SHUWHQVLRQ 25 & /HQJWK RI VWD\ ZDV DVVR
K\SHUWHQVLRQ 25 & \$GGLWLRQDO IDFWRUV LQFUHDVLQJ RGGV
25 & , ROGHU DJH 25 & , DQG ERG\ ZHLJKW 2
& ,

&RQFOXVLRQ VWXG\ DFFHQWXDWHV WKH XQGHHUHSRUWLQJ RI K\SHUWHQVLRQ
ILQGLQJ DOVR LQGLFDWH WKH QHHG IRU XUVHV DQG RWKHU KHDOWK SURYLGHU
WKH XQLTXH QHHGV RI WKLV SRSXODWLRQ 0RUH VWXGLHV DUH R
IDFWRUV LGHQWLILHG LPSPDFW K\SHUWHQVLRQ GHYHORSHPHQW DQG PDQDJHPHQW D

.HIZRUGVSHUWHQVLRQ 86 LPPLJUDQWV FRXQWUHQGHIRU RYHU RI 86
WRJHWKHU ZLWK WKHLU FKLOGUHQ 86
, QWURGXFWRQ LQGLYLGXDOV LQ WKH 86 > @ ,Q DGGLW
WUDMHFWRU\ LPPLJUDQWV H\SHULHQFH D
+ \SHUWHQVLRQ D PDMRU ULVN IDFWRU LQ FUHDWLQJ XQFHUWLYH
EHHQ UHFRJQLJHG DV D PDMRU SXEOLF DQG JOREDQ KHDOWLXDOV FXUUHQWO\ F
WKH 86 DGXOW SRSXODWLRQ DQG ESROXODWLRQ LQ DQXON H\SHUWHQVLRQ
+ \SHUWHQVLRQ FRQWULEXWHV WR RYHWKH QHHDWLRQ SHDVKV SHUWHQVLRQ
(WKGLFVHUHQFH WKH SUHYDOHQFH RI K\SHUWHQVLRQ KDYH EHHQ
H\SORUHJ DPRQJ 86 ERUQ %ODFNV QRQ +LVSDQLFV DQG
\$VLQV > @ 0RUH VWXGLHV DUH QHHGHG WR XGHUVWDQG K\SHUWHQVLRQ DV D
KHDOWK FRQFHUQ DQG LWV DVVRFLDWLYH IDFWRUV DPRQJ XQWOLJH WKHUWHQVLRQ
WKH 8QLWHG 6WDWHV H\SORUH WKH DVVRFLDWLRQ RI ELUWK SO
DPRQJ IRUHLJQ ERUQ LQGLYLGXDOV FDWH
, PPLJUDQWV DUH D JURZLQJ VHFWRU RI WKH 86 SRSXODWLRQ QXPEHULQJ
DW QHDUO\ PLOOLRQ LQ > @ H DQG PLOOLRQ LQ > @
KDV ZLWQHVVHG D LQFUHDVH LQ LPPLJUDQW SRSXODWLRQV ZLWK ERQ
DQG ,PPLJUDWLRQ LV WKH ODUJHVW FRQWULEXWLQJ IDFWRU LQ 86
SRSXODWLRQ JURZWK ZLWK PRUH WKDQ PLOOLRQ LQGLYLGXDOV HQWHULQJ
WKH FRXQWU\ DQXDOO\ > @ :LWKLQ WKH ODVW GHFDGH LPPLJUDQWV DQG WKH

IDPLO\ G\QDPLFV DQG RYH\UDDO\ORVQRMHWG WKMHOWHG @
IRU PRUH H[SORUDWLRQ RQ K\SHUWHQVLRQ DPRQJ IRUHLJQ ERUQ LQGLYLGXDOV
HUV D ODFN RI NQRZOHGJH RQ WKH DVVRFLDWLYH IDFWRUV WKDW PD\ LPSDFW
K\SHUWHQVLRQ DPRQJ LPPLJUDQWV ,Q WKH FXUUHQW VWXG\ ZH H[SORUH WKH
IDFWRUV DVVRFLDWHG ZLWK K\SHUWHQVLRQ DPRQJ D JURXS RI QHZ 86
LPPLJUDQWV

0HWKRGV

H 1HZ ,PPLJUDQW 6XUYH\ LV D QDWLRQDOO\ UHSUHVHQWDWLYH PXOWL
FRKRUW VWXG\ RI QHZ OHJDO LPPLJUDQWV DQG WKHLU FKLOGUHQ WR WKH 8QLW
6WDWHV EDVHG RQ QDWLRQDOO\ UHSUHVHQWDWLYH VDPSOH RI WKH DGPLQLVWU
UHFRUGV FRPSLOHG E\ WKH 86 ,PPLJUDQW DQG 1DWXUDOL]DWLRQ 6HUYLFH
HVDQDO\VHV XVH\WKMOGDFRKRUWV\VDPSOHG LPPLJUDQWV
EHWZHHQ OD\ DQG 1RYHPEHU RI DQG VXUYH\HG -XQH -XQH
H

&LWDW5RQHPEHUJ 0\$6 /DZUHQFH 9- 5RVWDQW 26 0F&XOODJK 0& 6LJQLILFDQW \$VVRP
,PPLJUDQWV \$Q H[SORUDWLRQ RI WKH 1HZ ,PPLJUDQW 6XUYH\ 1,6GR'DWD

3DJH RI

.RID/ (JHGH /(\$VVRFLDWLRQ EHWZHHQ COLWCHUV 6 WRD WUHW LGH-XCFMVD 6WZHHQ a
FDUGLRYDVFXODU GLVHVDH ULVN IDFWRUV DPRQJ DQ HWKQLFDOO\ GLYHUVH JURXS RI
8QLWHG 6WDWHV LPPLJUDQWV - *HQ ,QWHUQ 0HG
&XWOHU -\$ 6RUORP 3')LROGV /(HW DO 7UHQGV LQ
K\SHUWHQVLRQ SUHYDOHQFH DZDUHQHVV WUHDWPHQW DQG FRQWURO UDWHV LQ