1HZ <RUN 6WDWH 5HJHQWV ([DPLQDW
3K\VLFDO 6HWWLQJ (DUWK 6FLHQF

7HFKQLFDO 5HSRUW

3UHSDUHG IRU WKH 1HZ <RUN 6WDWH (GXFDWLRQ
E\3HDUVRQ

0DUFK

1RW7HZRVWXGHQWV ZHUH QRW UHSRUWHG LQEXVWKHWKQDLFLW\ DQG *HQGHU

[redacted]

)LJXUH6FDW3ORWVHJHQHUDWLRQ LQ 3K\VLFDO 6HWWLQJ (DUV

7DEOH'HVFULSWLYH 6WDWLVWLFV3DQHO&RQVWUXFWLRQ &RUUHODWLRQ 5H
([DPLQDWLRQ3RVLWLRQDO 6HWWLQJ (DUWK 6FLHQFH

p-value	86	0.61	0.40	0.53	0.61	0.70	0.85
Point-Biserial	86	0.44	0.19	0.39	0.44	0.52	0.71

2%6(59$7,216 $1'(535(7$7,216

7KH SYDOXHV IRU WKH 0& LWHPV UDQJHG IURP LQGLFDWLQJ SUF
FRUUHFW YDOXHV IRU DEVWUDFW&RQFHSWXDO DVSHFWV RI WKH GLIILF
GLVWULEXWLRQV LOOXVWUDWHG PX HpIR €G I ¼ `0

3UHSDUHG IRU31+<6(/'RQ

7DEOH6XPPDU\ RI ,WHP 5HVLGXDO &RUUHODWLRQV

5HOLDELOLW\ FRHIILFLHQWV UDQJH IURP WR 7KH LQ
YDULDQFH HTXDWLRQ ,I DOO WHVW VFRUHV DUH LQFUHDVHG E\ DGGLQJ D FRQVWDQW WR HDFK VFRUH WKH
ZRXOG EH SXUH UDQGRP QRLVH L H DOO PHDVXUHPHQW HU

7DEOH 6WDWH 3HUFHQWLOH 5DQNLQJV RI 2FFXSDWLRQ LQ 3K
6HWWLQJ (DUWK 6FLHQFH

,WHP 5H3YULRHZHVV

7KH LWHP UHYLKHZOSVUWFRWKVEVFXRQHVLVWHQW DSSOLFDWLRQ R
LQWHQGHG WR DVVHVV WKHYHTXRSOLGVDRQGWLGHQWLHPV W
UHPRYDO ISRRROWLKMMRVEH ILHO7GLWSHUFHGVKLDKODRZWWRWEHPV
FRQWLQXDOO\ GHYHORSHG LQ D PDQQHU WKDW LV FRQVLVWH

$OO UHYLHZHULQJRDURXKLFWSDDQHGWRHGWKHXQWVLQHQWRHDFKXQWLRQ
RI WKH VWDQGDUGXJKRXWHWKHZLSUHFHVV 7KLV LV D FULWLFDO
EHFDXVHQVLVWHQF\ EHWZHHQ WKH VWDQGDUGLQJHZKDWQHW
IXQGDPHQWDO IRUP RI HYLGHQFH RI WKH YDOLGLWRWKHWKH
LQWHJUDO FRPSRQHQWRI HRZ SURFHVV LV WR UHYLXHZUWKRUVFR
WKHLU FODULW\ DQGFRQVLVWHQF\ DQG E\ HQVXULQJ DSNHG WR G
WR HDFK LWHP (DFK RI WKHVH HOHPHQWSVDOHWKXHWLHYDWZH
IDLUQHVV IRU DOO VWFRGHVQWWWHQRUYLGQJ HYLG
RIWKH YDOLGLW\ RI WKHLU LQWHUSUHWDWLRQV

6SHFLILFKEOWHP WHYLHZUSWLRFXKEWRXU PDMRU LWWRWKDUF
1HZ <RUN 6WDWH (GXFDWRQZKHRQHYHORSLQJWHXDOLW\

)

PLVDSSOLFDWLRQ RI VFRULQJ UHXSHRQLWVH PRVU :KHQVWPURXQLWWHG
FRUUHFWLRQ GR QRW RFFXU GXULQJ YDFRWULQJ UHDGLQJV RU XPE
$FFRUGLQJO\ D VFRULQJ OHDG PD\ EH DVVLJQHG WR UHYLH
DVVLJQHG VWDII DJDLQVW WKH EDOLHVORQVRV ERQGVXOWDWL
VFRULQJ SURFHVV

$WWHQWLRQ WR WKH UXEULF GHVLJQ DOVR IXQGDPHQWDO

5HIHUHQFHV

$PHULFDQ (GXFDWLRQDO 5HVHDUFK $VVRFLDWLRQ $PHULFDQ &RXQFLO RQ 0HDVXUHPHQW &ROODERUDWLYH &RPPXQLW\ 'LVWULFW $PHULFDQ (GXFDWLRQDO 5HVHDUFK $

%DUNDRXL .KDOHG HW DO PDUNLQJ PHWKRG DQG UDWHU H VFRUHV DQG UDWHU SUHVHQWDWLRQ (GXFDWLRQDO 3ULQFLSOHV

&RQJGRQ 0F4XHHQ - 7KH VWDELOLW\ RI UDWHU HVWLPDWHV LQ SURJUDPPDWLF (GXFDWLRQDO 0HDVXUHPHQW

&RRN ' $ %HFNPDQ '7HV VFDOH OHQJWK PDWWHUV $VVHVVPS ILYH RLQW UDWLQJ &RQGLWLRQV LQ +HDOWK 6FLHQFHV (GX

&URQEDFK / - &RHIILFLHQW DOSKD DQG WKH LQWHUQDO

&URQEDFK / -)LYH 3HUVSHFWLYHV RQ YDOLGLW\ DUJ 7HVW 9DOLGLW\ 1- /DZUHQFH (UOEDXP

&URQEDFK / - /LQQ 5 / %UHQQDQ 5 7 *HQHUDOL DQDO\VLV HGXFDWLRQDO DVVHVVPHQWV /RV $QJHOHV &$ WKH 6WXG\ RI (YDOXDWLRQ 1DWLRQDO &HQWHU IRU 5HV 6WXGHQW 7HVWLQJ 5HWULHYHG)HEUXDU\ ZZZ FVH XFOD HGX SURGXFWV HYDOXDWLRQ FUHVVWBHF

*RUPDQ & $HQWVFK - 5 (YDOXDWLQJ UHOLDELOLW\ UDWHU HIIHFWLYHQHVV XVLQJ SHUIRUPDQFH UDWHU

*XOOLNVHQ 7KHRU\ RI PHQWDO 7HVWV <RUN

+DPEOHWRQ 5 . 1RYDN 0 5 7RZDUG DQ LQWHJUD FULWHULRQ (GXFDWLRQDO 0HDVXUHPHQW

+DPEOHWRQ 5 . 6ZDPLQDWKD"ëo‹0.°ð0 Pð OL`.o‹5 ‹

}

+DUYLOO / 6WDQGDUG HUURU(UGXRFDPWLRVQXDJHPHQWXUHPHQW
3UDFWLFHV ±

+RUQ- / $UDWLRQDOH DQG WHVW IRU WKH QXPEHUHU

$SSHQGL[% 7DEOH 6FRUH &RQYHUVLRQ 7DEOHV

7DEOH % 6FRUH 7DEOH $GGLWLRQDO LQIRUPDWLRQ

7DEOH % 6FRUH 7DEOH $GGLWLRQDO ,QIRUPDWLRQ

&+(&./,67 2) 7(67 &216758&7,21 35,1&,3/(6
0XOW&LKSROLHF ,WHPV

	<(6	12
,V WKH LWHP VLJQLILFDQW"		
'RHV WKH LWHP KDYH FXUULFXODU YDO		
,V WKH LWHP SUHVHQWHG LQ FOHDU DQ		

$SSHQGL[' 7DEOHV DQG)LJXUHV IRU $X $GPLQLVWUDWLRQ

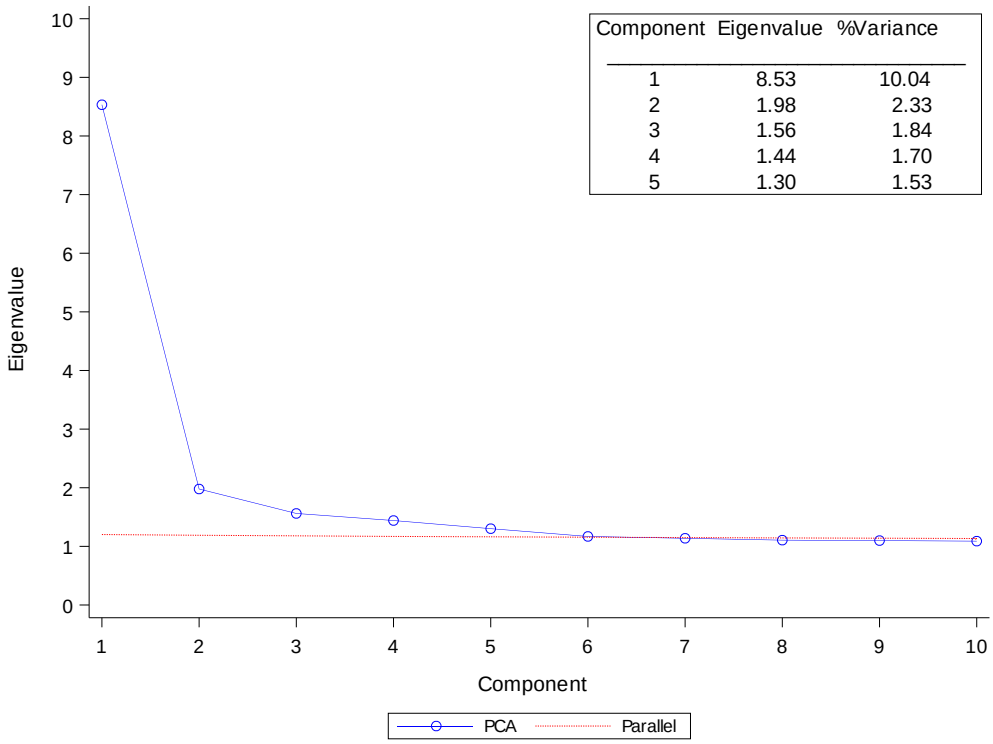
7DEOH0XOWL&RKRUWH ,WHP $QDO\VLVJXLGHPDQXDO LQ 3K 6HWWLQJ6FDOHQGKH

7DEOH&RQVWUXFWHGUHVSRQVH ,WHP $QDO\VHVDQGLQWHUSUHWDWLRQ
3K\VLFDO 6HWWLQJ (DUWK 6FLHQFH

)LJXUH6'FDWWHU5HJUHVVLRQ ([DPLQDWLRQ RI 3K\VLFDO 6FLHQFH

7DEOH ' 'HVFULSWLYH 6WDWLVWLFV RI &RUUHODWLRQ ([DPLQDWLRQ LQ 3K\VLFDO 6HWWLQJ (DUWK 6FLHQFH

)LJXUH



) L J X U H 6 F U H H 3 O R W

3 U H S D U H G I R U 31 H D U V R Q

)LJXUH&RQGLWLRQDO 6WDQGDUG (UUP0O pppppp y.@`ðpp

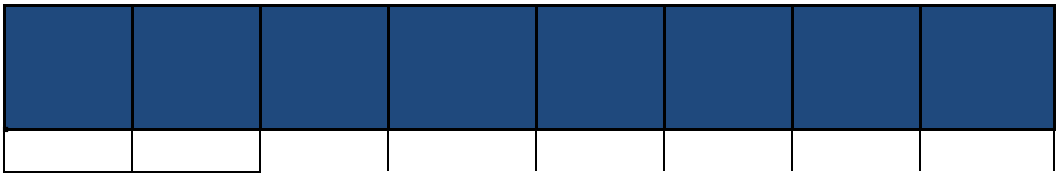
7DEOH*URXS 0HDQV (UURU RI 3K\VLFDO 6HWWLQ

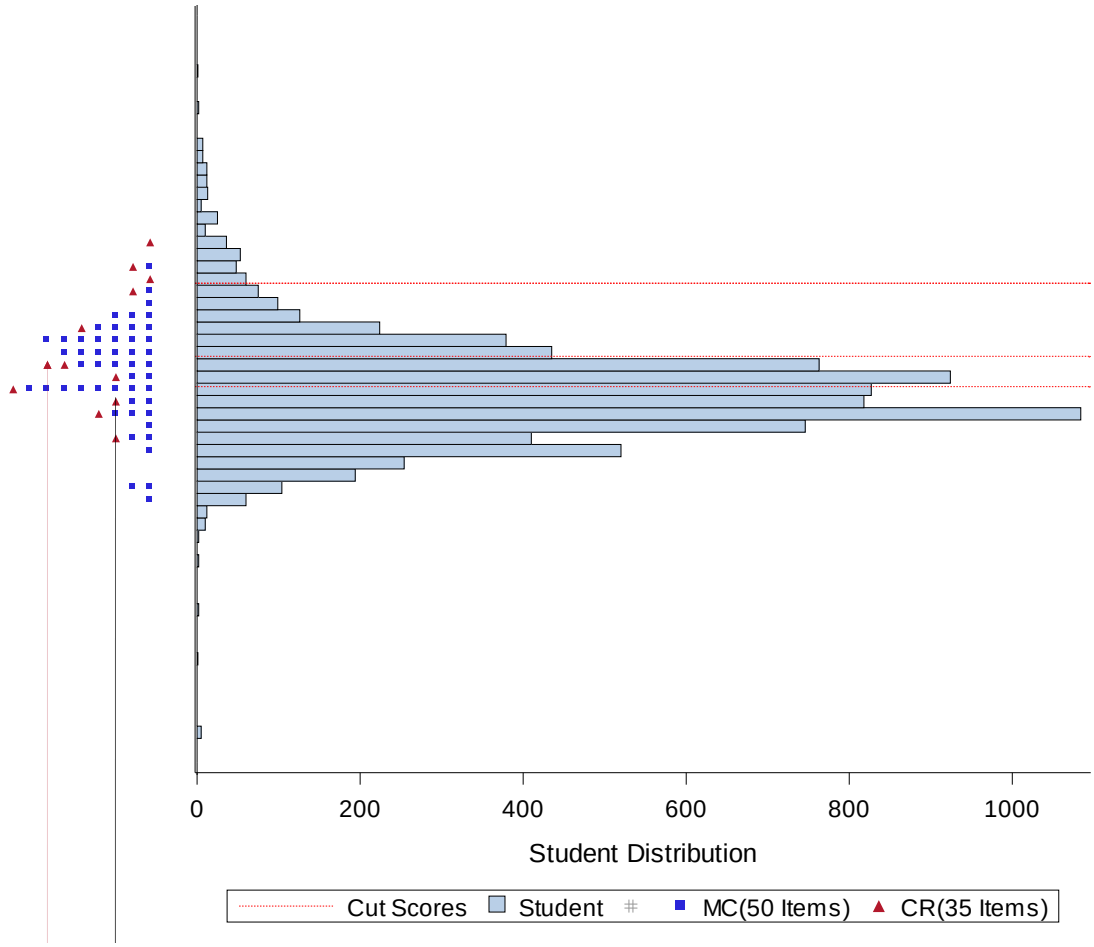
3UHSDUHG IRU 31HDUVRQ

$SSHQGL[(7DEOHV DQG)LJXUHV IRU -D $GPLQLVWUDWLRQ

7DEOH0XOWL&RKRUW ,WHP $QDO\VLVJHQHUDWLRQ LQ 3K 6HWWLQJ (DUWK 6FLHQFH

7DEOH&RQVWUXFWHGRQVH ,WHP $QDO\VHVXPPDU\LQIRUPDWLRQ
3K\VLFDO 6HWWLQJ (DUWK 6FLHQFH





)LJXUH6WXGHQW 3HUIRUPDQFH 'DWD([DPLQDWLRQ LQ 3K\VLFDO 6FLHQFH

3UHSDUHG IRU 3HDUVRQ

)LJXUH6FUHH 3ORWWQWV ([DPLQDWLRQ1G6HWWLQJ (DUWK 6FLH

7DEOH6XPPDU\ RI ,WHP 5HVLGXDO5HJUHVVLRQ[DPLQDWLRQ LQ 3K
6HWWLQJ (DUWK 6FLHQFH

N	3570
Mean	

7DEOH6XPPDU\,RI7HDQ 6TXDUH 6WDWLVWLFDO[MDPLQDWLRQ LQ 3
6HWWLQJ (DUWK 6FLHQFH

7DEOH*URXS 0HDQV ([DPLQDWLRQ LQ 3K\VLFDO 6HWWLQ

3UHSDUHG IRU 31 1HDOH (VT 'U