

Understanding Views on Sentience and Conservation: A Study of Emotional Experiences with Wildlife

Authors

Cpcc'Tgkm{.'Cpplg'N{pej . 'Mcvk'Tlej ctf u.'P gm'F qwi rcu. cpf 'Nk' 'Lghgt {

Gpxkqpo gpvcn'Uwf lgu'Rtqi tco . 'Dquvp'Eqmgi g.'Dquvp. O C.'24689.'WUC

Corresponding Author

Igppkgt'Tgdgeec'Uej cwt.'649'O eI wkpp.'F gr ctvo gpvqh'Uqekmqi {.'Dquvp'Eqmgi g.'Dquvp. O C'24689=[ngm{ clhB deQf w](#)

Authors' Contributions

CT.'CN.'MT.'P F.'cpf 'NL'f guki pgf 'vj g'r tqlgev'cpf 'eq/y tqvg vj g'o cpwuetkr 0

Running Title

Xlgy u'qp'Ugpkpeg'cpf 'Eqpugtxcvqp

Keywords

Ugpkpeg="eqpugtxcvqp="dkqf kxgtuk{ =y kf rkg="eqgz kvgpeg

Word Count

; 54:

Article Impact Statement

Vj ku'r cr gt'kf gpvkhgu'cpf 'o gcuwtgu'oj wo cp'r gtegr vqpu qh'cpko cn'ugpkpeg.ö'kpvkpi "cp go qvqpcn'cr r tqcej "q'tghgevkpu'qp'y kf rkg'kpvgtcevkpu. eqpugtxcvqp."cpf "dkqf kxgtuk{0

Acknowledgements

Vj g'tgugtej gtu'y qwf 'hng'v'vj cpn'Rtqhguqt'Igppkgt Uej cwt.'vj g'Gpxkqpo gpvcn'Uwf lgu r tqi tco . 'Rtqhguqt'Vctc'RkucpkI ctgcw.'qwt'hgmjy Ugpkqt'Tgugtej "Ugo kpc't'encuo cvgu."cpf "qwt r ctvkr cpw'hqt'vj gk'eqvtdwkqpu'v'qwt'uwf {0

Introduction

Vj g'tgrvklpuj kr "dgy ggp"j wo cpu'cpf "pqp/j wo cp"cpko cni j cu"gxqixgf "vj tqwi j qw"j kvqt {
cpf "xctkqu'dgy ggp"ewmwtgu."eqo o wpkkgu."cpf "kpf kxf wcn0Ur gekhkcmm{."j qy 'r gqr ng'xky "cpf
xcnwg"pqp/j wo cp"ugpvkgpeg"j cu'dggp"c"vqr ke"qh'tgugcte j co qpi "uej qrtu0Lcpg"l qqf cm'ly cu'qpg
qh'y j g'htuv'gzzr gtu'vq" f kuo cpvng'y g'r qr wxt'eqpegr vqh'y g'f lej qvqo { "dgy ggp"j wo cpu'cpf
cpko cni'd { 'r tqxkpi "vj cv'vqqr/wug."ewmwtg."cpf "go qvqpcneqppgevlap"ctg'pqv'wpls wg"vq
j qo qucr kqpu0Uj g'uw i guvf "vj cv'y qug'y j q'j cxg'ur gpveqpuvf gtcdrg'vko g'y kj "cpko cni'tgeqi pl g
vj cv'qwt'pqp/j wo cp"eqo r cplqpu'cpf "y kf rkhg'r quuguu ugpvkgpeg0Uj g'ct vwrc'vgf "vj cv'vqpeg" { qw
ctg'r tgr ctgf "vq"cf o k'yj cv'cpko cni'ctg'ugpvkgpv'cpf ecppqv'qprn { "hpqy "go qvqpu'hkmg"j cr r kpguu.
ucf pguu."hgct."dw'gur gekcm{ "vj g{ "ecp'hgnr clp"o vj gp."cu"j wo cpu'y kj "cf xcpegf "tgcupkpi
r qy gtu."y g'j cxg"ctgur qpukdkkv{ "vq"tgecv'y go 'kp o qtg"j wo cpg'y c { u'y cp'y g'lu'qh'vgp" f qo"vq
I qqf cm'l kpukwg."423; +0Dgecwug"j wo cpu'r r { "c'rcti g tqrg"kp"pqp/j wo cp"cpko cni'eqpugtxcvqap.
vj g'gz vgpv'vq"y j lej "j wo cpu'wvf gtuwcpf "cpf "gzzr gtlgpeg ugpvkgpeg"co qpi "pqp/j wo cp"dlkpi u'o c {
ko r cev'y g'hwmtg'qh'eqpugtxcvqap"cpf "vj g'hwmtg'qh j wo cp/y kf rkhg'kvgtcev'qpu'cpf "eqgz kvgpeg0
k'v'gegpv' { gctu."gzzr gtu"j cxg"ecmfg "hqt "y g'f kuo cpv'kpi qh'v'ctf kvqpcn'ldkpcetkqu'dgy ggp"j qo q
ucr kqpu'cpf "pqp/j wo cp"cpko cni' | f go k'uw i guu'y g dtgen'y g'dkpcet { "dgy ggp"j wo cpu'cpf
pqp/j wo cp"cpko cni'cpf "dgy ggp"j wo cpu'cpf "pcwtg'y kj i qxgtcpeg"htco gy qtm'hkmg"oQpg
P cwtg0"Uwej "c'r c'ctf ki o "ecm'hqt"j wo cpu'vq"o qxg dg{ qpf "c'py tqr qegpv'le"y c { u'qh'y kpnkpi
cpf "qr g'cv'kpi "y kj k'v'g'f i qdcr'gequ{ ugo 0Vj ku'dgi kpu y kj 'tgeqi pl kpi "cpko cni'ugpvkgpeg
* | f go kt."4242"2

Problem

Cu'j wo cpu"eqvkw'q"gpctqcej 'w qp"pcwtcrif cdkcu.

ugpvkpv'dgkpi u'lp'qtf gt'vq'tgeqi pk g'qwt'eqo o qp'r meg'qp'Gctvj 0Y kj lp'vj ku'eqo o wpkv'ugvki .
y g'y cpv'q'hqvg't'o gcpkpi hwn'tghgevkqpu'cdqw'j wo cp/cpk cnkpvgtcevqpu'vj cv'y knkphwpeg
r ctvek cpw'qy p'nxgu0k'qwt'ecm'hqt'y tkwgp'pcttcvkgu. y g'ctg'j qr kpi 'vq'j cxg'cp'ko o gf kvg
ghgev'qp'dqj 'vj g'tgugtej gtu'cpf "'vj g'r ctvek cpw0Dwrf kpi 'qh'h'qh'Tlej ctf uqpai'kf gcu.'vj g
tgugtej gtu'dgnkxg'vj cv'y g'y tkkpi 'r tqegu'y knkpkkv'f kvexgt { 'hqt'vj g'r ctvek cpw.'kpv kt g
eqppgev'qp'dgy ggp'j wo cp'r ctvek cpw'cpf 'ugpvkpv'k'g.'cu'y gml'cu'r tqf weg'o gcpkpi 'cpf 'etgcv
pgy 'cy ctgpguu'qh'tgcrkv' 'lp'vj g'r tqegu'*Tlej ctf uqp. 4223-0Vj g'tgugtej gtu'cempqy ngf i g'vj cv
y tkkpi 'ecppqv'dg'wvckpvgf 'htqo 'vj g'hg'g'zr gtlgpegu qh'vj qug'y d

vq'cempqy rñfi g'cpf 'uj ctg'vj g'r gtuqpcnr gtur gevkgu'qh'cm'tgugctej gtu'kpxqkxgf . 'j g'gk0Gcej
cwj qt'dtkpi u'wpls w'g'zr gtlgpegu."gf wecvkqp."cpf "go qvqp vq'vj g'vcdrg0Uj ctkpi "vj gug'r gtur gevkgu
etgcvgu"o qtg'qr gp'cpf 'r gtuqpcnrleqppgevkvq"dgwy ggp vj g'tgugctej gtu'cpf "vj g'tgcf gtu0k'vj gk
y qtm'Vtgxgu'cpf "eqmgci wgu'kpenmf g'c'ugevkvq'y j g'g vj g{'cempqy rñfi g'cpf 'uj ctg'vj gk'xct {kpi
qr kpkpu'cpf 'xky r qkpw'qp'vj g'vqr k'qh'r tgugtxcvkqp0Vj g'cwj qtu'uj ctg'vj cv'y j k'vj g{'cm'ctg
r cuukqpcvg'cdqw'vj g'uwdlgev'cpf 'ctg'eqpvtkdwkpi kvmgewcnleqpvqv'vq'vj g'ctveng."vj g{'ctg'pqv
cm'r gthgevf 'crki pgf 'k'vj gk'xky u'qh'pqp/j wo cp cpko cni'ki j u'Vtgxgu'gv'cr0"423; +0Uko krcn(.
y g'j qf 'xct {kpi "qr kpkpu'cpf "dgrkhu'qp'vj g'vqr k'qh'pqp/j wo cp'cpko cni'ugpvkpeg'cpf
eqpugtxcvkvq0Vj wu."Vtgxgu'cpf "eqmgci wgu'j cxg'kpur k'gf vj ku'ugevkvq."y j k'j 'y g'j cxg'ej qugp'vq
f gf kcv'vq'vj g'r gtuqpcnr'pcttcvkgu'qh'vj g'tgugctej gtu0

Lghgt { "dgrkxgu'vj cv'f geqputwevki "vj g'f ggr n{/tqqvgf . j k'ctej kcn'tgrvkvpuj k' "dgwy ggp
j wo cpu'cpf "pqp/j wo cp'cpko cni'ku'guugpvkr0Grko kpcvki vj gug'r tgeqpegkxgf "pqvkvpu'qh'j wo cp
uwr gkqtkv { 'cpf "rgc'kpi "kv'vj g'ugpvkv'pcwtg'qh'cm'dgkpi u'y kn'cmqy "cm'ur gelgu'vq"eqgzku'qp
Gctvj "k'c"eqo r cuukqpcvg'o c'ppgt'cpf "tgf weg'vj g'ugxgtg j cdkcv'f kutw kvq'cpf "uwdugs wgpv
dkqf kxgtukv { "quu'y g'ewtgpv { "hceg0

F qwi rnu'cti wgu'vj cv'ugpvkpeg'ku'vj g'utqpi guv'eqppgevkvq uj ctgf "dgwy ggp"j wo cpu'cpf
pqp/j wo cp'cpko cni'vj wu."k'ku'vj g'f w { "qh'j wo cpu vq'tgeqi pk' g'vj cv'uj ctgf "ugpvkpeg'ku'k'f k'gev
eqph'ev'y k'j "cpvj tqr qegpvtkuo . 'y j k'j 'j cu'f tkxgp'vj g'f gutwekvq'qh'pcwtcn'j cdkcv0Y j k'g
eqpegr wu'qh'ugpvkpeg'o c { "dg'vq'cdutcev'cpf "hqtgki p hqt'uqo g'k'f k'k'f wcu'vq'qr gpn { "go dtceg.
Tgkm { "ci tggu'y k'j "F qwi rnu'vj cv'cwkwf gu'vqy ctf u j wo cp/cpko cni'grvkvpu'o wu'dg'tgeqpvk'gtgf
d { "vj g'eqo o qp'r qr wcvkvq'hqt'tgcnleqpvugtxcvkvq'vq qeew0Tgkm { "hgnu'vj cv'cpvj tqr qegpvtkuo "ku'uq
f ggr n { "kpi tckpgf "k'v'q'c { "u'qekvkgu'vj cv'k'f k'k'f wcu o c { "pggf "vko g'vq'ceerko cv'vq'vj g'uj k'kpi

r ctf ki o . "qt "gnug" yj g { "o c { "t glgev" yj gug" kf gcu" qwt ki j 0Vj wu. "T gkm { "hggnu" yj cv" yj g" dguv" cr r tqcej "ku
vq" gcug" r gqr rg" kp" vq" yj gug" f kuewu kqpu. "gur gekm { kh" yj g { "ctg" vphco kktct" y kj " yj g" vqr leu0

N { pej "ku" eqo r gmgf "vq" f geqpust wevf qo kpcpv" ur gekgu ecvgi qtkgu" cpf " y qtmci clpuv" yj g
j wo cp" gzege vqpcrkuv" htco gy qtn0K" ur ktgf "d { " yj g" y qtmqh" Mktmug { "cpf " J gm tglej " *4232+ " N { pej
j qr gu" vq" dtkpi "kp" r gtur gevkgu" qh" gs wcrk { . "tgr nceki yj g" rpi wci g" qh" pqpj wo cp" ur gekgu" y kj
o wkur gekgu" wpf gtucpf kpi 0Cf f kkpccm { . "k" ku" ko r gtcvkg vq" cf xcpeg" qwt " Y guvtp" r wdrke
wvf gtucpf kpi "qh" cpko cniugpvkpeg" dg { qpf " wkrktkcp xcncvqp" qh" ur gekgu. "cpf " vqy ctf u" cp
wvf gtucpf kpi "qh" o wkur gekgu" cu" i qpf "vq" rkg" y kj . cpf "co qpi " *Mktmug { "cpf " J gm tglej . "4232+0

Tlej ctf u" dgrkgxu" yj cv" yj g" dkpctkgu" yj cv" gzku" vgr ctcvki pqpj wo cp" cpko cni" htqo " j wo cpu
ctg" j cto hwnht" cm" ur gekgu0K" ku" kp" cm" ur gekgu dguv" kpvgt guv" yj cv" uwej "dkpctkgu" cpf " j kgtctej kgu" ctg
f kuo cpvrgf "dgecvug" cm" rkgu" j cxg" kpj gtgpv" xcncv0Tlej ctf u" j qr gu" yj cv" gpi ci kpi "kp" etkccn" cpf
gptlej kpi "eqpxgtucvqpu" cdqw" cpko cniugpvkpeg" ku cp" ko r qtcvpv" vgr "kp" dtgcnkpi "f qy p" yj gug
vtf kkpccn" dcttktu0

Trends in Existing Literature

Vj g" gzku" kpi "dqf { "qh" t" gugctej "g" zr mt gu" yj g" tqrg" qh" xcncv. "cvkwf gu. "cpf " f kt gev" kpvgtcevqpu
qp" yj g" tgrcvkpuj kr "dgy ggp" j wo cp" cpf " pqpj wo cp" etgcwtgu. ekk gp" o qpkqt kpi . "cpf
eqpugtxcvqp" r tcevkgu0Vj gtg" ctg" c" xctkqv { "qh" t" gpf u gur gekm { "ucnkgpv" vq" hwwt g" t" gugctej "qp" yj g
tqrg" qh" ugpvkpeg" kp" o qkxcvqpu" htq" dgwt " tgcvo gpv" qh" y kf rkg0P wo gtqwu" uwf kgu" j ki j rki j v" yj g
ko r qtcpeg" qh" eqo r cuukap" kp" j wo cp" cvkwf gu" vqy ctf u y kf rkg. "tgr qt vki "go qkqpcn" xctkcdrgu" cu
yj g" utqpi guv" r tgf levqt "qh" y kf rkg" o cpci go gpv" qh" j qwug" ur cttqy u=cpf . " yj cv" j wo cp" go r cvj {
vqy ctf "cpko cni" cpf " utqpi gt" hggkpi u" cdqw" ugpvkpeg o c { "rgcf "vq" dgwt " tgcvo gpv" qh" cpko cni
*Nctup" gv" cr0"4238=Eqt pkuj "gv" cr0"423: +0Go r cvj gve tgcvo gpv" qh" cpko cni" gzvgpf u" vq

r gtur gevkg"FF qnd{. '4242+0F qnd{ au'go r j cuku'qp'go r cvj { 'kp'j gt'uwwf { 'cpf'j gt'wug'qh'eqmgi g
uwwf gpw'cu'r ctvkr cpw'ctg'vy q'vj kpi u'y gdf 'hkg vq'o kttq't'kp'qwt'uwwf {0Y cmcej 'cpf'eqmgi wgu
cti wg'hqt'vj g'ko r ngo gpv'vqp'qh'eqo r cuukqpcvg'eqpugtxcv'kp. c'hqto 'qh'eqpugtxcv'kp'lp'y j lej 'cm
pqp/j wo cp'cpko cn'uwldgeu'ctg'tgcvgf 'cu'ugpv'gpdgkpi u'cpf'ctg'uggp'hqt'vj gkt'kpt'kpuke'xcnwg
*Y cmcej 'gv'cn0'423: +0Vj g'cwj qtu'uwwf kfg 'xctkqwu ecugu'qh'cpko cn'eqpugtxcv'kp'cpf'etkks wg'vj g
y c{u'vj g{ 'ki pqtg'cpko cn'ugpv'gpeg'cpf'cev'y kj 'cp cpvj tqr qegp'v'k'ugv'qh'i qcm'*Y cmcej 'gv'cn0
423: +0Y j kg'y g'y kn'pqv'dg'cpcn{ kpi 'ewttgpv'eqpugtxcv'kp ghqtu.'y g'y kn'dg'kpxguki cvkpi 'vj g
tgrcv'qpuj k' 'dgwy ggp'xkgy u'qp'pqp/j wo cp'cpko cn'ugpv'gpeg cu'k'tgrcv'gu'v'c'wkwf gu'vy ctf u
eqpugtxcv'kp00 cph'gf q'cpf'eqmgi wgu.'vj tqwi j 'vj gkt cpcn{ ulu'qh'uqekqewmwt'cn'xcnwgu'qp'y kf rkhg
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eqpugtxcv'kp'dgr'gh0Qwt'uwwf { 'y kn'uggm'v'uko krcn{ cuuguu'j qy 'xkgy u'qp'y kf rkhg'ugpv'gpeg
ko r cev'r gtegr v'qpu'qh'y kf rkhg'eqpugtxcv'kp'vj tqwi j u'vqt'kgu.'r j qvqu.'cpf'qvj gt'uwej 'o gf kwo u0k
qwt'f'cvc'eqmgev'qp'r gtlkf 'y g'cko 'v'hqvgt'c'y cto cpf'ceegr v'kpi 'gpxktqpo gpv'hqt'vj g
r ctvkr cpw'kp'qwt'f'kuewuk'p'i tqwr 'y j gtg'vj g{ 'y kndg'kpxk'gf 'v'v'w'w' 'gzr'v'gt'vj gkt'vj qwi j u'cpf
hgkpi u'cdqw'cpko cn'ugpv'gpeg0Uko krcn{ 'v'F qnd{. y g'y kn'gpeqwtci g'r ctvkr cpw'v'p'r w
vj go ugr'ku'lp'vj g'qvj gt'dgkpi au'r'ceg'cpf't{ 'v'k'p'v'gtr'tgv'cpf't'geg'k'g'vj gkt'gpgti { 'cpf'go qv'qpu0
Y g'y kn'r tqo r v'vj g'uwwf { 'r ctvkr cpw'v'p'vj qwi j v'w'w'w' tgh'gev'w'qp'vj gkt'k'p'v'g'v'qpu'y kj
pqpj wo cp'y kf rkhg'cpko cu'0Y g'y cpv'v'q'ecm'c'wgp'v'kp v'q'vj g'v'p'ks'wg'gpgti g'v'k'd'qpf 'vj cv'ku'uj ctg
dgwy ggp'vy q'ugpv'gpdgkpi u'0Y g'y kn'gpeqwtci g'qwt r ctvkr cpw'v'p'dt'kpi 'cp'g'xgt'r'tg'ugpv
cy ctgpguu'qh'eqpuek'q'wup'guu'vj cv'cm'h'k'kpi 'et'gcwt'gu r quuguu'0Y g'j qr g'vj cv'vj ku'j gli j v'gpgf
cy ctgpguu'ecp'rgcf 'v'q'o qtg'o g'c'kpi h'w'f'kuewuk'p. tgh'gev'v'p.'cpf'eqp'v'p'w'gf 'o w'w'cm{ 'd'g'p'gh'ekcn

r ctvkr cpw'vj tqwi j "eqpxgplgpeg"uco r npi . "cu'vj g'tgugctej gtu'lwtxg{ gf "cwgpf ggu'vq"cp"cpko cn
y gntctg'u{o r qukwo "423: +0Kp'dqvj "uwf lgu."r ctvkr cpw j cf "ctgcf { "f go qputcvgf "c'uki pklcepv
kpvgtguv'lp"cpko cni'cpf "cpko cni'y gmlgkpi . "y j lej 'ko r cevgf tguwu"*Nctuqp"gv'cni"4238=Eqtpkuj "gv
cni"423: +0Qwt'uwf { "y km'dg'htqo "c'o qtg'o kzgf "dceni tqwvf qh'r gqr ng'y kj "xctkqu'kpvgtguu."pqv
lwv'ko kgf "vq'r gqr ng'y j q"ctgcf { "uj qy "ur gekni'kpvgtguv'lp"cpko cni

Areas for Further Study

Y j kg'vj g'rkgtcwtg"qp'y kf rkhg"eqxgtu'dqvj "c'tcpi g qh'uwvqr leu'cpf "eqpukf gtcdrf" f gr vj
kp'ur gekle"ctgcu."uki pklcepvi cr u'r gtukn0Ur geklecm{ . vj gtg'ku'o wej "vq'dg'uwf kgf "qp'vj g
r gtegr vkp"qh'cpko cni'ugpvkpeg'd{ "j wo cp'dgkpi u."j qy vj ku'ko r ceu'j wo cp/cpko cni'grvkpuj kr u.
cpf "y j cv'ghgevu'vj ku'j cu'qp"eqpugtxcvkp"ghqtu cpf "cy ctgpguu0Nctuqp"cpf "eqmgci wgu'cpcni'uku
qh'gzr gtlgp'kni'hcexqtu'uw r qt'u'vj g'dgrkgh'vj cv'gzr gtlgpegu y kj "y kf rkhg'utgpi vj gp"chgevkxg"cpf
go qvkpcni'tgur qpugu'vq'y kf rkhg'uko wk"*Nctuqp."gv'cni"4238+0Vj ku'uwf { "qr gpu'wr "cp"ctgc'ht
tgugctej "qp'vj g'tqng'qh'wvf gtucpf kpi "cpf "cr r tgekvkq qh'ugpvkpeg'ht"vj g'htto cvkq"qh
go qvkpcni'f kur quk'kpu'cpf "cvkwf gu'vqy ctf "y kf rkhg0Vj g'y qtn'qh'Eqtpkuj "cpf "eqmgci wgu
ulo krcni' "etgcvgu'vj g'r qvgp'kni'ht'hw'vj gt'tgugctej qp'y j cv'gzcew' "o qv'xcvgu'r gqr ng'vq"eqppgev'vq
cpko cni'ugpvkpeg"*423: +0Y j kg'vj g'tgugctej gtu'gzco kpg f go qi tcr j le'hcexqtu'vj cv'kphwpeg

r t g x l q w u n { ' d g g p ' c w g o r v g f ' k p ' q v j g t ' t g u g c t e j 0 Y g ' y k m l r t q o r v ' j g ' u w f { ' r c t v l e k r c p w u ' v q
v j q w i j v h w m { ' t g h r g e v ' w r q p ' v j g k ' k p v g t c e v k a p u ' y k j p q p j w o c p ' y k f r k h g ' c p k o c n u 0 Y g ' y c p v ' v q ' e c m
c v g p v k a p ' v q ' v j g ' w p k s w g ' g p g t i g l e ' d a p f ' v j c v ' k u ' u j c t g f d g w y g g p ' y q ' u g p v k e p v ' d g k p i u 0 Y g ' y k m
g p e q w t c i g ' q w t ' r c t v l e k r c p w u ' v q ' d t k p i ' c p ' g x g t ' r t g u g p v c y c t g p g u u ' q h ' e q p u e k q w a p g u u ' v j c v ' c m l h x k p i
e t g c w t g u ' r q u u g u u 0 Y g ' j q r g ' v j c v ' v j k u ' j g k i j v g p g f ' c y c t g p g u u e c p ' r g c f ' v q ' o q t g ' o g c p k p i h w n
f k u e w u k a p . ' t g h r g e v k a p . ' c p f ' e q p v k p w g f ' o w w c m { ' d g p g h e k e n k p v g t c e v k a p u ' d g w y g g p ' q w t ' u w f {
r c t v l e k r c p w u ' c p f ' c p { ' p q p j w o c p ' y k f r k h g ' c p k o c n u ' v j g { o c { ' g p e q w p v g t 0

Research Question

Y j c v ' o q v k c v g u ' r c t v l e k r c p w u ' v q ' e q p p g e v ' v q ' c p k o c n u ' g p v k e p e g . c p f ' j q y ' e q w f ' v j k u
o q v k c v k a p ' r g c f ' v q ' d g w g t ' t g c w o g p v ' q h ' y k f r k h g ' A Y g j q r g ' v q ' c f f ' v q ' g z k u k p i ' h x g t c w t g ' d { ' h k k p i ' v j g
i c r u ' e q p e g t p k p i ' v j g ' g o q v k a p c n i k o r c e v ' q h ' y k f r k h g ' k p v g t c e v k a p c p f ' c e v k a p c d r g ' g h g e w ' v j k u ' j c u ' q p
j w o c p ' d g k p i u ' v q y c t f u ' e q p u g t x c v k a p ' c p f ' y k f r k h g ' j c d k c v r t q v g e v k a p 0 K g c m { . ' y g ' y k m k f g p v k h {
r c w g t p u ' c p f ' t g p f u ' k p ' y k f r k h g ' k p v g t c e v k a p u ' v j c v f g o q p u t c v g ' g h g e v k g ' y c { u ' v q ' g p e q w t c i g

qwt'r ctvlek cpwøqxgtcm'gzr gtlgpeg'y kj 'yj g'uwwf {0Dquxqp'Eqrngi g'uwwf gpw'ctg'wpls wg'lp'yj gk
cdkxv\ 'vq'tghgeev.'eqo o wplēcvg.'cpf "go r cvj k g'y kj qyj gtu0Cm'Dquxqp'Eqrngi g'uwwf gpw'ctg
tgs wktgf 'vq'eqo r rvg'yj g'Eqtg'Ewtkewwo 'y j lej 'hquvgtu etklecn'yj kpnkpi 'unkm'cpf 'yj g'cdkxv\ 'vq
eqo r cuikqpcvgn\ 'eqo o wplēcvg'kf gcu00 qtgqxtg.'yj g'Lguwkvxcnwgur tqo wni cvgf 'yj tqwi j qw
Dquxqp'Eqrngi g'r rēg'c'utqpi "go r j cuku"qp'ugtxleg vq"qyj gtu'cpf 'y qtnkpi 'vq'o cm

Data Collection Methods

Rctvlekr cpwu'y gtg'lpvxkgf 'xlc'vzv.'go ckn'y qtf/qh'o qwj . cpf 'uqekri'o gf kc'vq'r quv'y gk
y kf rktg'lpvgtcevkpu'v'y'j g'Hcegdqmqi tqwr 0Rctvlekr cpwu y gtg'cungf 'v'lj ctg'pcttcvxxgu.'r j qvqu.
xkf gqu.'qt'cwf lq'htgu'cpf 'r tqo r vgf 'v'tghngev'qp vj g'go qvqpcn'gzr gtlkpegu'qh'y gk'y kf rktg
lpvgtcevkpu0C"eqo o qp"dcttktg'hqt'ekkl gp'uekpeg tgugetej 'ku'uwxckpof'gpi ci go gpv'cpf
eqo o ko gpv'qh'r ctvlekr cpwu*"Rcreeq'gv'crl04243-0Y g'cko 'v'cf f tguu'vj ku'ej cmgpi g'd{ "qhgtkpi
o wnr ng'r tqlgv'gpvt { 'r qkpu'cu'y gm'cu'o wnr ng y c{ u'v'v' r ctvlekr cvg'cvf khtg'gpv'ngnu'qh
eqo o ko gpv'lp'y'j g'Hcegdqmqi tqwr *"Rcreeq'gv'crl04243-0Gzco r ngu'qh'r ctvlekr cvkpp'dg{ qpf
r qukpi 'kpenmf g'lpvgtcevkpi 'y kj "qyj gt'r quu'v'j tqwi j rktgu'cpf "eqo o gpvu.'y v'ej kpi 'rkxg'utgco
xkf gqu'j quvgf "d{ 'v'j g'tgugetej gtu."cpf 'tghettkpi "qyj gt r ctvlekr cpwu'v'y'j g'i tqwr 0F cvc"eqmgevkp
dgi cp"qp"Qevqgdg36."4242"cpf "eqpenmf gf "qp"Cr tkk36. 42430

Data Analysis

Cp"guugpvkclnr ctv'qh'qwt'f cvc"cpcl uku'o gvj qf 'ku'eq/etgcvkp. y j lej "cmqy u'qwt'uwwf { 'v'q
dwwf 'c'tlej 'pcttcvxxg'dgvy ggp'vj g'r ctvlekr cpwu'cpf vj g'tgugetej gtu*"D3/pkuj /Dtgf plej ."423: +0
D3/pkuj /Dtgf plej "go r j cuk' gu'vj cv'wpeqpxgpvqpcrlo gvj qf u qh'pcttcvxxg'gvj pqi tcr j { "ctg'lp
v'pukqp'y kj 'v'j g'pggf 'hqt'gy pqi tcr j le'tgugetej 'v' dg'v'cmgp'ugtqwwf "cu'c"uqekri'uekpeg
*"D3/pkuj /Dtgf plej ."r 0; ."423: +0Y j krg"{ gv'c"pcttcvxxg dguv'ecr wt'gu'vj g'go qvqpu"gzr tguugf "d{
r ctvlekr cpwu'tgi ctf kpi 'v'j gk'y kf rktg'lpvgtcevkpu. cpf 'ku'o quv'v'wg'v'y'j g'pcwtg'qh'ugpvkpeg0
Hwvj gto qtg."qwt'o gvj qf u'hqmqy "cp'lpwvxxg'cpcl uku cr r tqcej "cu'qr r qugf 'v'c'pcl' v'ecr'eqf kpi
qh'y g'f cvc0D3/pkuj /Dtgf plej "chko u'v'y'j krg"okv'ku'vgo r vpi 'v'wtp'uvqt'ku'lpv'f cvc"cpf
f gxcnw'vj g'cev'qh'f ggr 'huvpki' cpf 'pcttcvxxg'eqpvgo r rvkpp.ö vj g'r tqegu'qh'qtf gkpi "uvqt'ku
lpv'pcttcvxxgu'ku'dguv'i vwf gf "d{ 'c"s wvkvxxg'cr r tqcej vj cv'f qgu'pqv'mug'vj g'go qvqpu'lp'y g

r ctvkr cpvau'uvqtkgu'd{ 'f kuugevki 'vj go '*D3pkuj /Dtgf plej . 'r 032."423: +0Qwt"cpcn{ uku'go r j cuk gu
kpwkxg'y kuf qo u'y j kg'go r mq{ kpi 'tgugctej "eqpxgpvkp y j gp"cr r tqr tkvg0

Vj g'f cv'y cu'cuuguugf "wukpi "c'ugtkgu'qh's wrkcvxg s wgunkqpu'vj cv'eqpukf gt'vj g'go qvkpu
cpf "ugpvkpeg"dgj kpf "vj g'uvdo kwgf 'r j qvqi tcr j u.'xkf gqu. cpf "cwf kq'tgeqtf kpi u0S wgunkqpu'vj cv
i vkf g'qwt "f cv'cpcn{ uku'kpenwf g<y j cv'v{ r g'qh'y kf cpko cn'ku'uj qy p'AY j cv'ku'vj g'eqpvz v'qh'vj g
r j qvq'AY j cv'f qgu'vj g'eqo r qukkqp'qh'vj g'r j qvqi tcr j uc{ "cdqw'vj g'tgrvkpuj k "dgwy ggp'vj g
r gtuqp"cpf "vj g'cpko cn'AY j cv'ecr vkpu'cpf "uvqtkgu'ctg kpenwf gf AY j cv'go qvkpu'f'vj g

K'ku'etwekrihqt'j wo cpu'vq'eqppgev'vq'pqp/j wo cp'ugpvkpv'dgkpi u'kp'qtf gt'vq'tgeqi pl' g'qwt
eqo o qp'r nceg'qp'Gctvj 0Wpf gtucpf kpi 'j wo cp'tgrv'kpvuj kr u y kj 'qvj gt'ugpvkpv'dgkpi u'ecp'cmty
d'v'w'p'nd'w'f'g'f'j qy 'y g'ecp'dgwt'uj ctg'qwt'r ncpv'c'p'f'r tqv'ev'r tgek'qwu'ur geku'0Vj gug
tgrv'kpvuj kr u.'d'v'k'v'qp'ugpvkpv'k'p'vgt'cev'k'p'u.'ctg ng{ 'vq'v'j g'go r cvj g'v'e't'g'c'w'o gpv'qh'y kf r'kg'c'p'f
uwx'k'c'n'q'h'd'k'f'k'x'g't'k'v'f' 'qp'q'w'r' ncpv'0Q'w't'g'ug'c't'ej k'p'v'p'f' u'v'q'k'p'v'k'n'c'p'go q'v'k'p'c'n'r r tq'cej 'vq
eqp'uk'f' g't'c'v'k'p'u'q'h'k'p'v'g't'ur geku'k'p'v'g't'cev'k'p'u'c'p'f 'ect'g'v'c'n'k'p'i q'h'q'w't'p'c'w't'c'n'y q't'r'f'0K'p'eq'p'f'w'e'v'k'p'i 'v'j ku
t'g'ug'c't'ej . 'y g'j' q'r g'v'q'r' t'q'f'w'eg'o g'c'p'k'p'i h'w'i'q'w'eq'o gu'v'j c'v'd'g'p'g'h'v'j g'r'c't'v'ek'r'c'p'u.'v'j g't'g'ug'c't'ej g'tu.
c'p'f' 'y' k'f' r'k'g'0V'j t'q'w'i' j 'v'j ku'w'w'f' {.'y g'c'k'o 'v'q'i' c'k'p'c' d'g'w'g't' 'w'p'f' g't'uc'p'f' k'p'i 'q'h'v'j g'y c' { u'j' wo cp
h'g'g'k'p'i u'c'd'q'w'c'p'k'o c'n'k'p'v'g't'cev'k'p'u'c'p'f' 'go q'v'k'p'ec'p'k'o r'c'ev'v'j g't'g'c'w'o gpv'qh'y kf 'c'p'k'o c'n'u'c'p'f
r g't'ur g'ev'k'g'u'q'p'eq'p'ug't'x'c'v'k'p'0Y' g'c'n'q'y c'p'v'v'q'k'q'u'v'g't' o g'c'p'k'p'i h'w'i't'g'h'g'ev'k'p'u'c'd'q'w'v'j g'go q'v'k'p'c'n
g'z'r'g't'g'p'eg'u'k'p'j' wo cp/c'p'k'o c'n'k'p'v'g't'cev'k'p'u'k'p'c'eq'o o w'p'k'v'f' u'g'w'k'p'i 0C'um'k'p'i 'r'c't'v'ek'r'c'p'u'v'q'g'z'r'q't'g
} g'k'f'g'g' v'S##

À Æ,À Æ c,À Æ d b m, d b, s d b n Æ c,À Æ d b c q d,À Æ, Æ o d,À Æ d b

C'um'k'p'i j, c'v'k'p'i, Æ o g'p'v'k'p'i j, À j o Æ v,À Æ g'p'v'k'p'i, Æ w'c'i'g'c'v'k'p'i

O gfk'V{r g	
Rj qvq	39
Xlf gq	5
P qpg	3
Eqmgi g'Cwgpf gf	
Dquqp'Eqmgi g	35
Qvj gt	6

Trends

Trend 1: Key words about animal sentience

Dgecwug'uwwf lgu'kp'vj ku'ctgc'qh'tgugctej 'j cxg'kpxgunki cvgf j wo cp'cempqy ngf i go gpv'qh cpko cnl'ugpvkpeg.'c'ej qugp'vj go g'ht'cpcn'uku'y cu vj g'wug'qh'vj g'y qtf 'ugpvkpeg'qt'c'tgrvfg cempqy ngf i go gpv'qh'pqp/j wo cp'cpko cnl'go qvqp'y kj kp vj g'f'guetkdgf 'kpvgtcevqp0Hqwtvggp.'qt 85085' . 'qh'vj g'r ctvkr cpw'eqo o gpvfg 'qp'vj g'r gtekgxf go qvqpu'qh'vj g'cpko cnl'qt'cpko cni'vj g{ gpeqwpvgtgf 0Vj g'uwwf { 'y cu'cm quv'gpvkn' 'eqo r qugf qh'hgo cmg'j wo cp'r ctvkr cpw'y j kej 'o c{ eqttgrv'q'vj g'o clqtk' 'qh'r ctvkr cpw'o cnl'pi 'ugpvkpeg/tgrvfg eqo o gpw0Eqtpkuj 'cpf eqmgi wgu'hqwpf 'vj cv'hgo cmg'y gtg'o qtg'rkng' 'q' gpi ci g'go qvqpcn' 'y kj 'pqp/j wo cp'cpko cni *Eqtpkuj 'gv'cn0'423: +0J qy gxgt.'pq'r ctvkr cpw'gzr rkn' wugf 'vj g'y qtf 'ugpvkpeg'kp'vj gkt pcttcvkg0Vj gtghqtg.'eqo o gpw'qp'cpf 'tgrvfg 'q'r gtekgxf go qvqp'cpf 'ur kkwcnl'pvtur gelgu eqppgevqp'y gtg'eqpukf gtgf 'wvf gt'vj g'vj go g'qh'ugpvkpeg0

Trend 2: Key words about human emotional experience

Vj tgg'qh'vj g'44'r ctvkr cpw'*35085' +y j q'ngw'pcttcvkg r quw'tgr qtvgf 'hggkpi 'go r cvj { hqt'cpqt#

j wo cp'lpvgtcevkqpu'y kj 'y kf rkhg'cpko cni'cpf 'vj gk'j cdkcwoVj gtg'y gtg'ugxgtenr ctvlekr cpwu'y j q
kpf kecvgf 'vj cv'vj g{ 'hgn'cr r tgj gpukxg'qt'hgcthwi'cdqww'vj gk'lpvgtcevkqpu'y kj 'y kf'cpko cni'Vj tgg
r ctvlekr cpwu'qh'vj g'44'vqcn'kpf kecvgf 'vj cv'vj g{ 'hgn'pgtxqwu'qt'hgcthwi'ctqwpf 'cpko cni'dw'wy q'qh
vj g'vj tgg'tgr qtvgf 'wko cvgn' 'j cxkpi 'r qukkxg'hgnkpi u cdqw'vj g'lpvgtcevkqpu0

Trend 3: Transformative effect of experience

Dgecwug'r tgxkqwu'uwf lgu'umi i guvgf 'vj cv'r gtuqpcn'gZR gtlgpegu y kj 'y kf rkhg'j cxg'vj g
r qy gt'vq'ej cpi g'j wo cpu'r gtur gevkgu'cpf 'cevkqpu'vqy ctf qvj gt'ur gekgu.'vj g'tgugctej gtu
kpxguki cvgf 'vj g'v'cpuhqto cvkxg'pcwtg'qh'vj g'r ctvlekr cpwu) gZR gtlgpegu'*Nctuqp'g'v'cn0'4238=
F qrd{. '4242='Ueqw'g'v'cn0'4242-0'Qh'vj g'44'f guetkr vkg pcttcvkgu.'. 'r ctvlekr cpwu'*5808' +
gZR rlekn{ 'f guetkdgf 'c'v'cpuhqto cvkxg'ghgevt'qo vj gk'gZR gtlgpeg'y kj 'y kf rkhg.'9'r ctvlekr cpwu
*530: ' +lpenmf gf 'pq'tghgtgpeg'vq'c'v'cpuhqto cvkxg'ghgevt'qh'vj gk'gZR gtlgpeg.'cpf 'vj g'tgo clkpi
9'r ctvlekr cpwu'*530: ' +lpenmf gf 'ko r rlekn'tghgtgpegu vq'vj g'gZR gtlgpegu'eqpvt'kdwkq'vq'vj gk'pgy
r gtur gevkg0Ukz'qh'vj g'gki j v'v'cpuhqto cvkxg'gZR gtlgpegu kpxqkxgf 'c'j wo cpw'lpvgtcevkq'p'y kj 'c
ur gekgu'vj g'r ctvlekr cpv'f qgu'pqv'ugg'qt'lpvgtcev'y kj qp'c'tgi wxt'dcuku0Cu'vj ku'tgugctej 'y cu
eqpf wevgf 'kp'vj g'o kf uv'qh'vj g'EQXKF/3; 'r cpf go ke.'vy q qh'vj g'gZR rlekn{ 'v'cpuhqto cvkxg
gZR gtlgpegu'lpenmf g'tghgtgpegu'vq'vj g'ko r qtvcpeg'qh'eqppgevkq'p'y kj 'qvj gt'ur gekgu'f wtkpi 'vj ku
r gtlqf 'qh'kuqrc'vkp0'Hkxg'qh'vj g'gki j v'v'cpuhqto cvkxg'gZR gtlgpegu'lpenmf gf 'gZR rlekn'tghgtgpegu'vq
r gtuqpcn'cevkq'vqy ctf 'eqpugt'xc'vkp0Qpg'v'cpuhqto cvkxg'gZR gtlgpeg'j gir gf 'c'r ctvlekr cpv'hgn
r gtuqpcn{ 'eqppgevgf 'vq'y kf rkhg0'Vj gtg'y cu'cp'qxgty j gm kpi v'gpf 'kp'r ctvlekr cpwu'gZR gtlgpegu
ecwulpi 'tghgevkq'qp'o wkur gekgu'eqgz'kugpeg0'Qh'vj g'eqo dkgf '37'gZR rlekn{ 'cpf 'ko r rlekn{
v'cpuhqto cvkxg'gZR gtlgpegu.'; 'lpenmf gf 'c'tghgevkq qp'eqgz'kugpeg'cpf 'vj g'gh

Vj g'9'r ctvkr cpw'y j q'f kf "pqvtgr qtv'qp'vj g'tcpuhqto cvkxg'pcwtg'qh'vj gk'y kf rkhg'g'zr gtlkpegu
uj qy gf 'hgy 'eqo o qpcrkkgu0"Vj g'ur gekgu'gpeqwpvgtgf cpf 'mcecvkqu'qh'vj gug'pcttcvkxgu'y gtg
xctkgf 0Qpg'r ctvkr cpv'r qpf gtu'y j { 'c'upcr r kpi 'wtvrg tgwtpu'v'vj gk' { ctf "qp'cp'cppwcn'dcuku0
ōJ gtgā'o { 'vj qwi j v'ō c { dg'uj g'ej qqugu'qwt'my p'dgecwug y g'j cxg'vj g'qpn' 'pcwtcn'hy p'kp'vj g
pgki j dqtj qaf #AP q'htvkr gt0P q'r guvkr gu0P q'cp { vj kpi ō Cpqj gt'r ctvkr cpv'tgo ctngf "qp'c
ugcnu'cdkrk' { 'v'eqgzku'y kj 'j wo cpu'kp'Nc' Lqmc<ō'Kuy co 'kp'vj g'y cvgt'cpf 'y cu'j qpgun'
uwr tkugf 'd { 'vj g'ugcnu'rcni'qh'j quvkrk' { 'cpf 'uggo kpi n' f lutgi ctf 'hqt'j wo cpu'uy ko o kpi 'kp'wej
enug'r tqzko kv.ō0"Vj g'r ctvkr cpw'ctg'cdng'v'cempqy ngf i g cpf 'tghge'v'qp'vj gk'g'zr gtlkpegu'y kj
qjy gt'ur gekgu.'dw'f q'pqvtgr qtv'cp { 'gxkf gpeg'qh'c ej cpi gf 'cvkwf g'qt'r gtur gev'kxg'hqmy kpi 'vj g
kpgtcev'kp05"qh'vj g'9'r ctvkr cpw'vj cv'f kf "pqvtgo ctmi'qp'tcpuhqto cvkqp'ctg'uwf gpw'qh
Gpxkqpo gpv'cn'Uwf kgu0

Trend 4: Species Type

Qh'vj g'44'f guetkr v'kxg'pcttcvkxgu.'35'r quu'7; Ō; ' +hgewugf "qp'cp'kpgtcev'kp'y kj 'c
vj tgcwpgf "qt'tctg'ur gekgu'vj cv'vj g'r ctvkr cpv'f qgu pqv'eqo o qpn' 'gpeqwpvgt'kp'vj gk'gxgt { f c {
rkhg0Vj gug'ur gekgu'kpen'f gf 'c'ugc'rkqp.'j wo r dcemy j crgu.'dgctu.'cp'gm'c'f ggt.'ugc'wtvrgu.'dkuqp.
o qwpv'kp'i qcvu.'c'vgtter kp.'ugcnu.'uy cpu.'cpf 'c'wtvrg { 0Qh'vj gug'35'r quu'hgcwtkpi 'kpgtcev'kpu
y kj 'tctg'cpko cnu.'8'r quu'68Ō7' -'cnu'g'zr r'ekm' f guetkdgf "c'tcpuhqto cvkxg'ghge'v'qp'vj g
r ctvkr cpv'tqo 'vj g'gpeqwpvgt0Qpg'r ctvkr cpv'uckf vj gk'kpgtcev'kp'y kj 'c'ugc'rkqp'tgchko gf
vj gk'o qv'xev'kp'v'r tqv'ev'y kf rkhg'cpf 'hgcxg'cpko cnu crpg'ōv'f q'vj gk'vj kpi ō Cpqj gt
r ctvkr cpv'y cu'tgo kpf gf "qh'vj g'ko r qv'cpeg'qh'eqpugt'xcv'kp cpf 'vj g'eqgzku'v'peg'qh'j wo cpu'cpf
pqpj wo cp'cpko cnu'chgt'vj gk'kpgtcev'kp'y kj 'uy cpu0O qtgqxt.'y q'r ctvkr cpw'vj cv'y tqv
cdqw'vj gk'kpgtcev'kpu'y kj 'j wo r dcen'y j crgu'f guetkdgf vj g'gpeqwpvgtu'cu'o cni'kpi 'vj go 'tghge'v
qp'vj g'j wo cp'ko r cev'qp'vj g'gpxkqpo gpv'cpf 'vj g'etvgn'v'gco gpv'qh'y j crgu'kp'ecr v'kxk'.'cpf

f guetkdgf 'hggrkpi 'kpur ktgf 'v'eqpvkpwg'yj gk'eqpugtxcvkqp'ghqtu0Qh'yj g'; 'r quu'hgcwtkpi
kpvgtcevkqpu'y kj 'o qtg'eqo o qp'cpko cnu.'4'r quu'*4404' +cnuq'f guetkdgf 'c'tcpuhqto cvkxg'ghgev
qp'yj g'r ctvlekr cpv'htqo 'yj g'gpeqwpvgt0Vj wu.'pcttcvkxgu cdqw'gpeqwpvgtu'y kj 'tctg'cpko cnu'y gtg
409'ko gu'o qtg'rkgnf 'v'f'kuewu'c'tcpuhqto cvkxg ko r cev'yj cp'gpeqwpvgtu'y kj 'eqo o qp'cpko cnu0
c0 35'qh'yj g'44'r quu'*7; 0; ' +cnuq'kpenf gf 'c'tghgevkkp qp'eqgzkvgep.'yj g'j wo cp'ko r cev
qp'yj g'uwtxkcn'qh'yj g'ur gekgu.'cpf lqt'yj g'ghgevqh'j wo cp'qt'pqpj wo cp'cpko cnu'r tgugpeg
cu'c'r quukdr'f kuwtdcepeg'v'yj g'qyj gt0Qh'yj g'6'r quu yj cv'hqewugf "qp'eqgzkvgep.'cml'qwt
*322' +y gtg'eqppgevgf 'v'kpvgtcevkqpu'y kj 'tctg'cpko cnu0k'qp'g'r quv'cdqw'o qwpvckp
i qcu.'yj g'r ctvlekr cpv'uj ctgf 'yj cv'yj g'gizr g'kgep o cf g'yj go "0tgcrl'g'yj cv'j wo cp'dgkpi u
eqgzkv'y kj 'cpko cnu'cu'y g'uj ctg'yj g'uco g'gctvj 'y kj yj go 0'k'cpqyj gt'r quv.'c'r ctvlekr cpv
yj cv'kpvgtcevgf 'y kj 'dkuqp'gizr m'kpgf 'yj cv'yj g'gpeqwpvgt o cf g'yj go "0vj kpm'yj cv'eqgzkvgep
y kj 'cpko cnu'ku'r quukdr'0'Qh'yj g'8'r quu'yj cv'f gcnv y kj 'yj g'j wo cp'ko r cev'qp'pqpj wo cp
cpko cnu.'5'qh'yj g'8'*72' +r quu'y gtg'eqppgevgf 'v' tctg'ur gekgu0Qpg'r quv'cdqw'ugc'wt vgu
tgo kpf gf 'c'r ctvlekr cpv'cdqw'0vj g'ko r cev'yj cv'j wo cp

cpko cnu'uj ctkpi 'c'ur ceg0J qy gxgt. 'qh'vj g'35'r quu'vj cv'tghngevgf "qp'vj gug'vqr keu'cu'y gmi'cu
eqgz kugpeg. ", 'r quu'"8604: ' +y gtg'htqo 'kpgtcevqpu y kj 'tctg'cpko cnu0

Trend 5: Composition of Photograph

J qy 'f'kf 'r tqzko kv 'chgevj' qy 'vj g{'hgn'cdqww'vj g'cpko cnaF kf 'k'gxqmg'tgur gev.'hgctA

c0 Y qqf r gengt <öJ g'f'kf pø'uggo 'vq'o kpf "o g'uvcpf kpi 'uq enqug.'s wkw' 'o guo gtl gf "y j kg

y cvej kpi 'j ko 'j cr r kn' 'y qqf dqt kpi "cy c{=j g'uggo gf 'tcvj gt r tqwf "vq'uj qy 'qhh'j ku

r qy gt/r genkpi "cdk'k'gu0K'hn'vj cv'vj ku'y qqf r gengt cewcm' 'hknf 'vj g'cwf kgpeg.'uq"K

hqmjy gf 'j ko "cpf 'hko gf 'j ko 'y j kg'pco kpi 'j ko "Y cngtö

cemc'f'f'cbio'cidd
d0 Gm'okj g'nu'uj puqv'f kgev'g'zr g'f'j kpi 'j ko 'j cr r kn' 'y cewcg0

- k0 ðVj g'o quv'tgo ctædrg'gZR gtlgpeg'y cu'y kj 'c'i tqwr 'qh'y j crgu'y j lej 'eqo g
 vj tqwi j 'qwt'y cvgtu'kp'O ctej 'cpf 'Cr tkn'gcej '{ gct0Uggkpi vj gug'j vi g'cpko cnu
 tgcml 'r wu'j qy 'uo cm'y g'ctg'kpva'r gtur gevkgö
- k0 ðVj gtg'y g'ftkngf'y j kg'dgkpi 'uwtqwpf gf 'd{ 'J wo r dcemu hqt'y tgg'j qwtuö
- g0 UgcndöCv'j ku'eqxg'qp'y g'y cvgt.'o cp{ 'ugcni'i cvj gtgf ctqwpf 'v'uwpdcvj g0Kuy co 'kp'y g
 y cvgt'cpf 'y cu'j qpguwl 'uwr tkugf 'd{ 'vj g'ugcnu'æremqh'j quv'kv' 'cpf 'uggo kpi n' 'f kutgi ctf
 hqt'j wo cpu'uy ko o kpi 'kp'uwej 'emug'r tqzko kv'0Vj g'ugcnu y gtg'uwpdcvj kpi . 'uy ko o kpi .
 erko dlpi 'qp'y g'tqemu.'gplq{ kpi 'vj g'uwp.'gei "Ky cu ucpf kpi 'uwr gt'emug'v'y q'ugcnu
 y j q'uggo gf 'v'i gv'kp'cp'cti wo gpv'y kj 'gcej 'qvj gt' 'gvf kf 'pqv'gxgp'dcv'cp'g{ g'cv'o g0
 Rtgw{ 'pgcv'j qy 'ceewuqo gf 'cpko cni'ecp'i gv'v'dgkpi pgct'j wo cpuö
- h0 Dwpp{ <ðK'y cupø'o qxkpi 'cv'cm'gxgp'y j gp'Keco g'emug vq'kv'cpf 'kv'y cupø'drkpnkpi lkv
 g{ g'y cupø'o qxkpi 0Kdgi cp'v'i gv'y qttkgf 'cpf 'eqpukf gt vj g'r quukdkkv' 'vj cv'vj g'dwpp{ 'y cu
 htq| gp'v'f gcvj . 'y j lej 'uectgf 'o g'cpf 'o cf g'o g'hggnuq'uqtt{ 'hqt'k0Ky qwr 'pqv'eqpukf gt
 o { ugrh'cp'cpko cni'qxtg'd{ 'cp{ 'o gcpu.'cpf 'pqto cm' co 'o qtg'chtckf 'v'i gv'emug'v'cp{
 y kf 'cpko cni'0Rgtj cr u'vj g'hcev'vj cv'vj ku'dwpp{ 'y cu uq'f ghpugrguu'ku'y j cv'o cf g'o g'pqv
 hgn'vj tgcvgpgf 'd{ 'k'dw'tcvj gt'vj kpnkpi 'qh'y c{ u vq't{ 'v'j'j gr 'kö
- i 0 F ggt<ðKmqmgf 'qwu'kf g'y g'y kpf qy 'qh'o { 'j qwug'cpf ucy 'c'f ggt'uuctkpi 'cv'o g'cpf
 uqo r kpi 0K'y cu'c'tgcm' 'co c| kpi 'gZR gtlgpeg'v'u'gg vj g'f ggt'tgeqi pk g'cpf 'kpvgtcev'y kj
 o gö
- j 0 Dkuqp<ðQp'o { 'y c{ 'vj gtg.'Kuvqr r gf 'o { 'ect'v'vcng c'mqm'cv'vj ku'i tqwr 'qh'dkuqp0K
 y cvej gf 'vj go 'hqt'c'y j kg.'cpf 'gplq{ gf 'dgkpi 'kp'y gk r t'gugpeg0Vj g{ 'f kf pø'uggo 'v'
 pqv'eg'o g'cpf 'y gpv'cdqvw'vj gk'f c{ 'i tcl kpi 'cpf 'y cm'kpi ctqwpf ö

10 I qcvu<ōKi qv'c'dk'p'gtxqwu'cu'vj g{ 'eco g'emug'v'wu'v'etquu'vj g'r cvj 0Vj g{ 'f'k' 'pqv'uggo
vq'o kpf 'vj g'f'cev'vj cv'vj gtg'y gtg'r gqr ng'cni'cmipi 'vj g'r cvj . 'cu'iqpi 'cu'y g'f'k' 'pqv'i gv'vqg
enqugō

10 Ugc'Nkqp<ōQp'qpg'gzr gf k'kqp'y g'gpeqwpvgtgf 'c'ugc nkqp'ur tcy ngf 'qp'c'dgpej 'tgukpi 0K
ucv'qp'vj g'dgpej 'qr r qukg.'cdqw'8'hggv'cy c{0K'iqqngf wr . 'k' gp'v'k'kf "o g'cu'c'pqp/vj tgcv
cpf 'y gpv'dcem'v'unggr 0K'eqwf pō'j grr 'dw'p'q'v'eg c'r gtuqperkv{ 'v'j ko . 'h'ng'j qy "{ qw'h'ggn
y j gp "{ qw'g'p'cr r kpi "qp'vj g'eqvej "cpf 'uqo gqpg'y cmu k'p'uq "{ qw'iqqm'vr 'dghqtg'i two r k'f
i q'dcem'v'upqql kpi 0

67067' 'qh'r quu'tghgtgpegf 'j wo cp'r'tqzko kv{ 'v'y kf nk'g ur geku0Ugxgtcn'qh'vj gug'r quu

hpf lpi u'd { 'kmwo kpcvpi 'vj g'xgt dci g'wugf 'vq'f guetkdg'pqp/j wo cp'cpko cni'go qvqpu'cpf 'ugpvkpeg
cpf 'tghphqtelpi 'vj gk'tguwuu'tgi ctf lpi 'c'eqttgrvqp dgy ggp'hgo cngu'cpf 'go qvqpcr'eqppgevkp
y kj 'pqp/j wo cp'cpko cni'Eqtpkuj 'gv'cni'423: -0Hqwtvgg qh'vj g'y gpv{/wy q'r ctvkr cpw'y tqvg
cdqw'vj g'r gtegxgf 'go qvqpu'qh'vj g'cpko cni'kp'uqo g ecr cekv{ 'kpf lecvpi 'cp'cempqy ngf i go gpv'qh
pqp/j wo cp'cpko cni'ugpvkpeg0k'qy gt'y qtf u.'o qtg'vj cp j cni'qh'vj g'r ctvkr cpw'kpenmf gf
eqo o gpw'tgrvpi 'vq'cpko cni'ugpvkpeg'y j gp'cungf 'vq uj ctg'c'pcttcvkg'cdqw'c'y kf rkhg
kpvgtcevqp0vj gug'r gtegxgf 'go qvqpu'tcpi gf 'öecro ö vq'öci i tguukxgö'cpf 'vj g'r quw'kpenmf gf
y qtf u'wej 'cu'gzekgf . 'tgrczgf . 'htwutcvgf . 'wpr j cugf . eqpvgr0Qh'vj g'r quw'vj cv'kpenmf gf 'vj gug
ng{y qtf u'cpf 'ugpvko gpw.'vj g'ur gekgu'qh'vj g'cpko cntcpi gf 'htqo 'mqecn'dcem{ ctf 'dglpi u'vq
kpvgtpcvqpcn'tctg'ur gekgu'kpf lecvpi 'vj cv'ur gekgu rkngr{ 'j cf 'pq'ko r cev'qp'y j gj gt'qt'pqv'vj g
r ctvkr cpv'kpenmf gf 'eqo o gpw'qp'ugpvkpeg0O cp{ 'qh'vj g'ur gekgu'ctg'hqwpf 'kp'vj g'Wpkgf 'Ucvgu
dw'mqecvqpu'cnuq'kpenmf gf 'Uy k/ gtrpf . 'Dgto wf c. Dtc| kn'cpf 'vj g'I cnr ci qu0P qpg'qh'vj g
r ctvkr cpw.'j qy gxgt.'wugf 'vj g'y qtf 'ugpvkpeg'kpf lecvpi 'vj cv'r gtj cr u'vj g{ 'gZR gtlkpeg'cpko cn
ugpvkpeg'y kj qw'j cxkpi 'ngctpgf 'cdqw'vj g'hqto cneqpegr 0F qnd{ 'cti wgu'hqt'vj g'gZR cpukp'qh
gpv'kqpo gpv'nf'gf wecvkq'ur gekk'ecm{ 'tgrcvgf 'vq'go r cvj { cpf 'cpko cni'ugpvkpeg'y j lej 'y g'cnuq
tgeqo o gpf 'cu'o cp{ 'r ctvkr cpw'y gtg'pqv'cu'y gmlphqto gf qp'eqpugtxcvq'cpf 'vj g'go gti lpi
rkvgtcw'g'qp'ugpvkpeg'0F qnd{ 'gv'cni'4242-0Gf wecvkq'ur gekk'le'vq'vj ku'vqr le'dglpi 'i kxgp'r tkqt'vq
eqpf wevpi 'c'uwf { 'uwej 'cu'vj ku'o c { 'j cxg'ko r rkecvkqpu qp'tguwuu'cpf 'vgtö kqmqi { 'wugf 0

Trends in human emotion

Vj g'f cv'eqngevgf 'uj qy u'vj cv'j wo cpu'gZR gtlkpeg'c dtqcf 'tcpi g'qh'go qvqpu'y j gp
kpvgtcevpi 'y kj 'vj g'rkv'gu'cpf 'ugpvkpv'ur kksu'qhy kf rkhg'cpko cni'0Y j gp'r ctvkr cpw'tgr qtvf
hggkpi u'qh'go r cvj { 'hqt'pqp/j wo cp'cpko cni'vj g{ 'hgrvy gtg'utwi i rki 'kp'uqo g'y c{.'vj g{
o gpv'kqpgf 'j qy 'vj g'cpko cni'utwi i ng'o cf g'vj go 'vj kpmetk'ecm{ 'cdqw'j wo cp'cpf 'pqp/j wo cp

cpko cnlkpvgtcevkqpu'cpf lqt'eqpugtxcvkqp0Vj ku'kpf kpi 'tghngeu'vj g'y qtm'qh'*Y cmcej 'g'v'c'0'423: +
k'p'y j lej 'y g'cwj qtu'ucv'vj cv'uwo o qpkpi "eqo r cuukqp ku'ko r qtcv'v'y j gp'y kpnkpi "etkkekcm' "cpf
g'y kecm' "cdqw'eqpugtxcvkqp0Kpvgtguvki n'.'y g'eqo r cuukqp ugxgtcn'qh'vj g'r ctv'ekr cpvu'hgn
kpxqmgf 'c'ugpug'qh'f w'f 'v'q'eqpugt'xg'vj g'rkxgu'cpf y gm'dgkpi "qh'y kf rkhg'cpko cnu0Vj g'o clqtk'f' "qh
r ctv'ekr cpvu'g'zr tguugf 'r qukkxg'hgnkpi u'k'p'vj gkt p'cttcv'xgu'tgeqwpv'kpi 'y gkt'g'zr gtlgpegu'y kj
y kf rkhg'cpko cnu0Vj ku'tgpf 'ku'gzekkpi "dw'pqv'pgeguuctk'f' uwr tkukpi 0O qtgqxtg.'uwej 'kpf kpi u
chhko 'y cv'ek'k' gp'uekgpeg'i tqw u'r tqxk'f' g'go qv'xg g'zr gtlgpegu'vj tqwi j 'gf wecv'kpi 'r ctv'ekr cpvu'qp
ko r qtcv'p'gp'xk'qpo gp'v'cn'v'qr leu'*Rcgeq'g'v'c'0'4243+0

Trends in Transformative Narratives

Vj g'tguvnu'hqwpf 'k'p'vj ku'uwf { 'ctg'eqpukv'gp'v'y kj r t'gxk'qwu'uwf { a'k'p'f kpi u'vj cv
g'zr gtlgpegu'y kj 'y kf rkhg'j' cxg'vj g'cdk'k'f' "v'q'o q'v'x'cv'g' j wo cp'cev'qtu'v'qy ctf "go r cvj g'v'ek'cev'kqpu
v'qy ctf 'y kf rkhg'cpf "chhge'v'xg'cpf "go q'v'k'p'cn't'gur qpugu v'q'y kf rkhg'u'v'ko w'k'*N'ct'v'q'p'g'v'c'0'4238=
F qnd { .42420N'ct'v'q'p' "cpf "eqm'g'ci v'gu'hqwpf 'y cv'g'zr gtlgpegu y kj 'j' q'w'ug'ur ctt'qy u'r qukk'x'gn'f'
chhge'v'f' 'r ctv'ekr cpvu't'g'c'wo gp'v'qh'vj g'ur g'el'gu.'y j lej ku'uwr r q't'v'g'f' 'd' { 'y g'q'x'g'ty j g'm' kpi 'r q't'v'k'p'
qh'g'zr gtlgpegu'vj cv'q'w't'uwf { 'h'q'wpf 'v'q'd'g'r ctv'ek'w'ctn'f' v'c'p'uh'q'to c'v'x'g'0'F qnd { 'h'q'wpf 'y cv'y tkk'pi
cp'gu'uc' { 'h'q'o 'y g'r g'tur g'ev'x'g'qh'cp'cpko cn'vj g' { 'j' c'f' r t'gx'k'q'w'un'f' "q'd'ug't'x'g'f' "eq'p't'k'd'w'g'f'
uki p'k'h'ec'p'v'nf' "v'q'vj gkt'gp'x'k'qpo gp'v'cn'g'f' wecv'k'q'p' "cpf go r cvj g'v'ek'eq'p'p'g'ev'k'q'p'v'q'cpko cnu'F qnd { .
4242+0Q'w't'uwf { "eq'p't'k'd'w'gu'v'q'F qnd { a'y q't'm'ld' { 'uj' q'y ecuk'pi 'y g'r q'y g't'qh'g'zr gtlg'p'v'cn't'g'h'ng'ev'k'q'p'
qp'j' wo cp'a'eq'p'eg'r v'k'p'u'qh'cpf "eq'p'p'g'ev'k'q'p'u'y kj "q'v'j g't ur g'el'gu'0H'h'g'g'p'qh'vj g'44'*8: Ø: ' +
r ctv'ekr cpvu'g'k'j g't'ko r r'ek'nf' "q't'g'zr r'ek'nf' "t'gh'g'tt'g'f' v'q'vj g'v'c'p'uh'q'to c'v'x'g'p'c'w'w'g'qh'vj gkt'y kf rkhg'
k'p'v'g't'cevk'q'p.'uwi i guv'kpi 'y cv'k'p'et'g'cu'g'f' 'h'g's'w'g'p'e' { "qh'j' wo cp/y kf rkhg'k'p'v'g't'cevk'q'p'u'j' cu'vj g'r q'v'g'p'v'cn'
v'q'ko r t'q'x'g't'g'c'wo gp'v'qh'q'v'j g't'ur g'el'gu'0"R'ct'v'ekr cpv'38a'u'uc'v'go gp'v'ecr w't'g'f' 'y g'ug'p'v'ko gp'v'qh'
o cp' { "qh'vj g'i tqw a'o go d'g'tu'<0'Vj g' { 'y g't'g'x'g't' { 'ec'm' c'p'f' "ug'go g'f' "s'w'kg'eq'p'v'g'p'v'l'w'v'j' c'p'i kpi "q'w'

qp'vj g'o qwpvcp0Vj ku'gZR gtlgpeg'o cf g'o g'tgcrk g'vj cv'j wo cp'dgkpi u'eqgzku'v'y kj 'cpko cnu'cu'y g
uj ctg'vj g'uco g'gctvj 'y kj 'vj go 0K'r ctvkwct.'tghgtgpegu vq'eqgzku'v'y gtg'j ki j n' r'tgxcrgp0
Vj ku'o c{ 'dg'f wg'vq'j wo cpai'f qo kpcpeg'lp'vj g'pcwctny qtrf . 'qhv'p'ngcf kpi 'vq'ugr ctcvkap'qh
ur gelgu0'Y j gp'j qo q'ucr kgpu'ctg'gpeqwtci gf 'vq'lpvgtcevy kj 'qvj gt'ur gelgu'lp'vj gkt'v' r'lecn
gpv'vj g' ctg'cdng'vq'f geqpuv'wv'vj g'f qo kpcpvpwctg/uqekv' 'kf gqni' kcn'f kxkf g0
Cempqy rgi i kpi 'vj g'xcnwg'qh'o wnkur gelgu.'cu'lpvtqf wv'gf d{ 'cwj qtu'Mktmug{ 'cpf
J gm tglej *4232+.'lp'qwt'uj ctgf 'gpv'ku'c'etwecnuvgr 'vqy ctf u'lwuv'r tguv'xv'kq'p'0'Mktmug{
cpf 'J gm tglej . '4232+0' Cp'qxgty j gm kpi 'o clqtkv' 'qh'vj g'gZR nek'v' 't'cpuhqto cv'xg'gZR gtlgpegu
qeewt'gf 'dgy ggp'j qo q'ucr kgp'cpf 'c'ur gelgu'vj g' lpvgtcevy kj 'tctgn'0'Vj ku'o c{ 'uwi i guv'vj cv
ur gelgu'lpvgtcevkpu'ctg'o qtg'r qy gthw'vj j gp'vj g' 'eqv'cuv'v' r'lecn'lpvgtcevkpu'0'Hqt'gzco r'ng.
Rctv'ekr cpv'4'y tqv'cdqww'vj gkt'gZR gtlgpeg'y kj 'j wo r'dcemy j crgu'0'Vj g'f c{ 'y cu'qpg'Ky km
hqtgxgt'tgo go dgt'y kj 'vj g'tcpuegpf gpv'uqwpf u'qh'y j crgu dtgcej kpi 'pgctd{ 'cpf 'vj g'tgcrk' 'qh
y j cv'y g'xg'f qpg'vq'vj gug'y cvgtu'ukn'kpi 'lp.0'Vj g r'ctv'ekr cpv'tgr qt'v'gf 'vj cv'vj g'gZR gtlgpeg'j cf 'c
f'kt'gev'lo r'cev'qp'vj gkt'y qtn'icpf 'eqv'kdw'kq'vq'eqpugt'xv'kq'p' kpk'cv'xgu'0' Cf'f'k'k'q'p'cm{ . 'ej ctkuo cv'le
gZR gtlgpegu'y kj 'cpko cnu'o c{ 'j cxg'vj g'r'qv'p'v'cn'vq' dg'o qtg't'cpuhqto cv'xg'0'Rctv'ekr cpv'33
eqppgevgf 'y kj 'c'f'gg'0'K'dtqwi j v'o g'emugt'vq'y kf'rhg' cpf 'K'hn'o qtg'eqppgevgf 0'K'p'ungcf 'qh'lwuv
qdu'gt'x'kpi 'vj ku'cpko cnu'qo 'vj g'lp'v'kf'g.'Ky cu'cewcm{ o cnu'kpi 'g'g'eqp'cev'cpf 'dgkpi
cempqy rgi i gf 'd{ 'vj ku'f'gg'0'J wo cpu'o c{ 'dg'o qtg'eqppgevgf cpf 'o q'v'x'cv'gf 'vq'r' tqv'ev'ur gelgu
vj cv'gzj kdk'j wo cp'rhg'hcw'wt'gu'0'Vj g't'gu'w'u'uj qy 'vj cv'vj gug'lpvgtcevkpu'ctg'lo r'qt'v'p'v'ht
k'p'v'qf wv'kpi 'o wnkur gelgu'eqppgevkq'p'cpf 'ug'p'v'k'peg'0 Vj ku'uwf { 'y cu'ur gel'k'ecm{ 'lpv'gt'g'v'gf 'lp'vj g
gh'gev'qh'vj gug'lpvgtcevkpu'qp'r'gtur ge'v'x'gu'qh'eqpugt'xv'kq'p'=j qy gxgt. 'qpn' { 'hxg'gZR gtlgpegu'j cf 'c
f'kt'gev'v' r'qu'k'x'g'lo r'cev'qp'vj g'r'ctv'ekr cpv'v'eqpugt'xv'kq'p' kpk'cv'xgu'0'Vj gug't'gu'w'u'uw' i guv'vj cv
vj gtg'ku'c'ecw'ucn'gh'gev'qh'y kf'rhg'lpvgtcevkpu'qp'j wo cpai'r'gtur ge'v'x'gu'qp.'go q'v'k'p'u'uj ctgf 'y kj .

tgugtej 'hqt cv'etgcv'cp'lpvgtcevxg'cpf 'o gcpkpi hwi'gzr gtlgpeg'hqt'yj g'r ctvkr cpw. 'k'ecp'dg
kpetgf kdn' 'tcpuhto cvxg'hqt'yj g'tgugtej gtu'cu'Tlej ctf uqp *4223+'j ki j rki j w'cpf 'f luewuugu'cv
ngpi yj 'lp'j gt'y qtn0Cffkkqpcmf. 'wukpi 'c'pqp/tcpf qo eqpxgpkpeg'uco r ng'etgcvf 'c'f kxgtug
r ctvkr cpv'dcug0Vj g'r ctvkr cpv'r qqr'ku'eqo r qugf qh'cm'ci gu'qxgt'yj g'ci g'qh'3: . 'dqyj 'eqmgi g
cpf 'pqp/eqmgi g'uwf gpw. 'cpf 'c'o kz'qh'Dquvq'Eqmgi g cpf 'pqp/Dquvq'Eqmgi g'eqo o wpkf
o go dgtu0J cxlpi 'c'f kxgtug'i tqwr 'qh'r ctvkr cpw'r tqxkf gf c'y kf g'tcpi g'qh'lpvgtgu'lp'y kf rkg.
r gtur gevkgu. 'cpf 'gzr gtlgpegu'y kj 'y kf rkg0Wukpi Hcegdqnm'cu'yj g'ej qugp'r r'vhto 'hqt
eqpf wvki 'y ku'tgugtej 'cmqy gf 'yj g'r ctvkr cpw vq'hqugt'eqppgevku'y kj 'gcej 'qyj gt'cpf 'yj g
tgugtej gtu'lpugcf 'qh'dgkpi 'dnkf 'v'y j q'yj g'qyj gt r ctvkr cpw'y gtg0Vj ku'wps wg'qprkg
r r'vhto 'r tqxkf gu'c'pgy 'eqvtdwkq'v'eqo o wpkf dwkf kpi 'kp'eqpf wvki 'gy pqi tcr j le.
pcttcvxg'tgugtej 0Vj g'tgugtej gtu'r qugf 'gf wecvkpcnxf gqu'qy ctf u'yj g'gpf 'qh'yj g'f cv
eqmgevku'r tqegu'v'kphqto 'yj g'o go dgtu'qh'yj g'i tqwr qh'yj g'tgcuqpu'hqt'yj g'tgugtej 'cpf
gzr rcklpi 'hg' { 'eqpegr w'lp'yj g'pqp/j wo cp'cpko cntgugtej ur ceg0Vj ku'cmqi 'y kj 'yj g'lpnwukq
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o gy qf 'f guki p'yj lej 'cmqy gf 'yj g'tgugtej gtu'v'ckqt yj g'r tqegu'v'ur gekk'f gukf 'qweqo gu
cpf 'ko r necvku'p'hqt'yj g'tgugtej gtu. 'r ctvkr cpw. cpf 'rti gt'hgn' 'qh'y kf rkg'tgugtej 0

Limitations

Y j kg'vj g'f guki p'qh'vj ku'uwf { 'qhhgtgf 'o cp { 'dgpghku'v'vj g'tgugctej . 'vj gtg'ctg'ugxgten cur gew'vj cv'bo c { 'hko k'vj g'cdkxk { 'v'hqto 'f ghpkxkg'cpf 'i gpgtckk cdm'eqpenwukpu0' Cnj qwi j gzvpukg'ghqtw'y gtg'vngp'v'kpxkg'kpvgtguvf r ctvkr cpw'v'vj g'i tqwr . 'vj g'uk' g'qh'vj g'uco r ng y cu'uqo gy j cv'uo cm'y kj 'qpn { '44'qh'64'v'v'cnj wo cp r ctvkr cpw'uj ctkpi 'vj gkt'g'zr g'kpegu'y kj vj g'i tqwr 0'Vj g'uo cm'uk' g'qh'r ctvkr cpw'cm'y gf hqt'o qtg'gzvpukg'cpf 'kpenwukg'cpcn { uku'qh pttcvkxgu=j qy gxgt. 'vj g'uco r ng'bo c { 'pqv'dg'tgr t'gugpvkxg qh'vj g'i tgcvt'j wo cp'r qr wv'kqp0 Cffkxqcm { . 'vj g'uco r ng'y cu'qxgty j gm kpi n { 'hgo crg. y kj 'qpn { 'qpg'o crg'r ctvkr cpw'0'Vj g'xcuv o clqtk { 'qh'r ctvkr cpw'*99049' -'ctg'eqmgi g'uwf gpw0Uq. 'vj g'hpf kpi u'o c { 'dg'r tko ctk { i gpgtckk cdm'v'v' hgo crg'eqmgi g'uwf gpw0k { 'kpenwukgpguu cpf 'F kxgtuk { 'k'Ekkl gp'Uelgpeg.ö Rcrgeq'cpf 'eqmgi wgu'utguu'vj g'tqrg'qh'ekkl gp'uelgpeg k'r tqf wv'kpi 'hpqy rgi g. 'y j kej 'y g. 'cu t'gugctej gtu. 'etgcg'vj tqwi j 'qwt'htco kpi 'qh'qwt'pctcvkxgu cpf 'vj g'r ctvkr cpw'y g'kpenw' g'Rcrgeq gv'cn0'4243+0k { 'vj g'r tqeguu'qh'qwt'tgugctej . 'qwt i tqwr 'j cu'go dtcegf 'uwlgevkxg'g'zr g'kpege= j qy gxgt. 'k'ku'ko r qt'v'v'v'v'tgeqi pk' g'vj cv'qwt'kf gpv { cu'hgo crg'eqmgi g'uwf gpw'eqpv'kdwgf 'v'c nguu'vj cp'kpenwukg'uco r ng0Ncuw { . 'vj g'qr gp'gpf gf pcwtg'qh'vj g'r tqo r v'rgf 'v'f khhgt'gpegu'k eqpv'p'v'ko kpi 'vj g'tgugctej g'v'ecr cek { 'hqt'f kgeveqo r ct'kuq'qh'r ctvkr cp'v'zr g'kpegu0

Implications

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References

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 P cv'k'pu.'8'O c { "423; .
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Appendix A.

Recruitment and Informed Consent Message (Sent to participant after joining the Facebook group)

Vj cpm{ qwhqt "{ qwt 'kpvgt gu'kp'r ct vkr c'kpi 'kp'qwt uwf {0Vj tqwi j 'y ku'tgugctej 'y g'j qr g'v'gdwgt wpf gtucpf 'y g'y c{u'j wo cp'hggnkpi u'cdqw'cpko cni'ugpvkpeg cpf 'go qv'kqp'ecp'ko r cev'y g vgcwo gpv'qh'cpko cni'cpf 'c'kwf gu'cdqw'eqpugt'xcv'kqp0

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Y g'ctg'j qr kpi "{ qw'o c{ 'dgpgh'htqo 'dglpi 'kp'y ku'uwf { cpf 'kp'y g'eqo o wpk' 'etgcvf 'y tqwi j qwt'r r'v'htqo 'y j lej 'y kn'hqugt'o gcpkpi hwi'eqpxgtucv'kpu cdqw'r ct vkr cpwø j wo cp/cpko cni'kpvgtcevkpu0Vj g'tgugctej gtu'j qr g'v' i gpgtcv'npqy rgi g'cdqw'y g'tqng'qh j wo cp'w'pf gtucpf kpi 'qh'ugpvkpeg'kp'eqpugt'xcv'kqp'r tcevegu y cv'o c{ 'dgpgh'v'uekv'0

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