



OPEN

INTRODUCTION

o roup wor s ntu strn s wt a rar a
stru tur t u g n u s st pos sop st zt
ru s g n onstrnts zt r nt v so r pr s nt zt on su
z s nt zt g n s g n t zr nts Fra r g n a n r 2
a Dona t a a t a o g n tions o t s
onstrnts a to g p arnts n o o pr ns on r sut n n
t s own o r g n sp g n Go p t a w ts t a
2 u t a 2 tv a or o t s nt n Co n
t a 2 g n 2 uous un nt n or v n unr o n
nt rpr tations F rr r a t a 2 2 anor g n turt 2 2
F rr r a 2 roso t supra s nt z n or at on
onv n g n u s g t p o onstrnt n t g n u
s st g n r o n n t r s o g oust v g zt ons su
z p t nt nt g n urgt on proso prop rt s onst tut
a r g a stru tur t proso stru tur w s
v to n p n nt o utr zt to t sur a s nt zt
stru tur o g s nt n g spor g n Bo r 2
or o r t a s o t proso stru tur n C n s p z s
s upp g nt zt r a At ou proso onstrnts zt
ons r to p a g n u nt zt ro n sp pro u t on
g n o o pr ns on r r t a Fo or 2 2 t r
un tions n wr tt n g n u pro ss n g y n r a n
ov roo n t p zt
nt stu s g v s own t zt proso g n sp a
g tr a g t zt wor v g r pr s nt g n ut
ur n s nt n r a n As g n a n r 2 u g t a

r q n r spon s s to q C n s p r q s pos ton q t t n
o q s nt n w ou o t r t corr t +
or t n or r t 2+ patt rn t was v suq
pr s nt q s q w o p r q s wt two or t r q r q t rs on
t s r n n E pr q nt t vr q n t o t w r s n
ons ut v n E pr q nt 2 suts r q s o w t q t t
2+ patt rn t ot q yr r r onto ntr q n q v t
an q xr r post r or post v t q s o p q r wt t +
patt rn nt q t q w n o w q t r t ons t o t w o
p r q s E pr q nt or q t r t ons t o t on q r q t r
o t E pr q nt 2 t us ru n out q v suq o p t
q ount or t s t or ov r t s ts w r un to
t q rr ov r o stnt q pro ssn o t q no q n
s q v r s qus t r was no r q q r n n
E r spon s s to t s v r s Inst q t s ts n q t q
r q p ut q t on o t r t q patt rn ur n t pro ssn
o wr tt n s nt n s w n wor s q o n to or q
p r q s proso t r t q patt rn nt s q pro q tv
q pos s onstr q nts on t p t q on q n s t on q ss o
wor s t q n nt r t o n q n t on v o q t on o t
proso onstr q nts ou nt q t r q n s s n q q t r t
w n o w to n n r q o r n t r pr s nt q n t q s r . t
t n r q s q t pos t v t or t 2+ patt rn r q t v
to t + patt rn q s q t r t ons t o t w o
p r q s n n s o q q n q t pos t v t ts
or t q nor q r t q patt rn t p r q s stru tur
wt q n n approp q t o n q t on o s q nu q rs w r
q so o s rv n stu s o s p n o t r q n u q s n q u s
t q q n t q Do q s t q q n t
q s s o w t q In t s stu s t p q q n t
o wor str ss or s q n t was q n pu q t r sut n n
orr t or q nor q tr q r t q t wor v us
ross n ust v n s q s t o n q t o n q n t o n t v
pro ssn o r t q nor q t on n q n u q s w t v r nt
q u t proso stru tur s
E t n n our pr vious wor t q o t urr nt
stu was to qurt r nv st q t o w t r t q patt rn
onstr q nts u up o p r q s sor o poun s urn C n s

s nt n r ɔ n Inst ɔ us n t E ɔ sur s r
w r or o u o motor ɔ t v t s w part pants r ɔ u
v s s nt n s t ɔ t ont ɔ n t r t ɔ onst tu nts
r t ɔ patt rn w s ɔ an pu ɔ t ont rt ɔ w t t r
ɔ + ɔ or ɔ + patt rn ɔ n t o ɔ n ation w s pos t on
ɔ t t ɔ s nt n to ɔ v o t pot nt ɔ n u n o
s nt n n ɔ nt rxt on pro ss on o ɔ pro ss n or ov r
su ɔ ɔ n xt on w s us to ɔ o ɔ s ɔ noun
基他

patt rn or wor or rvo gton t s t ton ou ta p a
wt r nt t ours s a rs wr suppos to zwzr
o t proso zno w nt ns r z n t vr
zn ts o t t r st two wor so t o poun uo
zn Z ou or v wnt a noun In operson
t zno o wor or r wgs un to tt or
t a noun wgs nount r gus t zt raton o
wor or ro urr on un rt sp r ustan o
onstrutn a o poun r or r zns wgs p t
to ta p a zt s on wor o t tr wor o poun
or t vo gton o r t patt rn ut zt t tr wor
a noun or t vo gton o wor or r or ov r w
p t t zt sus qu ntr zny ss str r t s two
t ps o v o gton s wou r t nt apor sso zt
o u o motor zns v nt att ts or proso vo gton
ntongt on s zt zn s ntz t vo gton wor
zt or or wor or rvo gton wr o tgn n rnt
t wn ows n t prvious E stu s E st n zn
Fr r An zt rmzv pr t on wou t zt
t r zns ss o t r t p o zno wou zn z t
t zt stz o pro ssn a or n to t n n s n Br n
zn Coton A or n w wou sp a p t
r n s n r ss v zov znts n r spon to our
zun pu zt ons

In part u^r w por t r^{an}s pro ss at^r at v
at sta w as n r^an n ov roo nt p^{as}t
at tr^t r^ar^{as} ns v w n t s nt n atst
on r^ar^{as} st nt rt^{an}t An tor r^at
s nt n or to oov r ts onst nt v nw n s ns s
r^an t ast wor o^t s nt n s ur t² 2
turt² at s r^{an}s s an ast trou t s nt n
r r^an st^a as ur an Pass t² point out t^{at}
ov r^ao^t s nt n s n n rr r^{as} s on^o t n o
t s nt n no^{at} rw t rt r^a r^{as} y n p^{at} or
not s r r^{as} v Nov^{an} nts t n to usrt² on
ast n nt rat^{on} pro ss nw at² a nor^{at} on
as n a ss H r w not on us t onv nt onz
an^{ss} C ton t^a or^{ar} v w to g^{an} t
tot^a r^an urgt^{ons} or r^an ut² so² opt² n w
v op^{at} o s ampt^{an} ss to an^t p^{at} rn o
r r^an .. as ur an Pass t² As ampt^{ar} rs to
as qu nt² p^{at} rn o^t at^{on} D st n t ro^{an} onv nt onz
tr^a n² asur s s ampt^{an} ss nt rat² s ot t
spat² an t t² por^z stru tur o^t Nov^{an} nts ur n
r^an prov n² o² v w o Nov^{an} nts n²
an swt n² sp² It wou part u^r ontr ut^{ons}
n stu s t at² xv² but p^{ar} r^{ons} o nt rst an² ar
g^{ount} o on s² a s² t t² as ur t²
2 an n² n² to t por^{on} o r r^an For
x² p² n ou² or out ou² r^{rs} on s on pass
r^an t² sort pr² n r^{ons} y² usu² asur
to r² t t r^{rs} v Nov^{an} nts o ur n² at² at
sta os nt n pro ss n But s² asur s n² on
av t² ts n quan t² t v p t n t s qu n² os r²
s² a Nov^{an} nts an t start an n o² o^t
s nor^{at} on² t p r p r² or nv st² qnt² n²
r^an o^t s nt n² us r^a rs y² n n to r²

r on r on ro~~t~~ nn n tow~~r~~ t n B anta
r a n w ~~a~~ nt r a n pro ss st ~~o~~ ur or t
s r a t n o t s nt n It n v rt ss s rt ~~o~~ or
r r a n s n s~~z~~ a spn an ~~o~~vn r tons ~~z~~ or
un opt on~~z~~ at su ~~z~~ ut st~~z~~ un ~~z~~ ons qu n
s ou ~~o~~ r vun r~~z~~ to p r ~~a~~ nt~~z~~ ~~u~~ pu~~z~~ ons In
ot r wor s nv st ~~z~~ n ~~o~~ v ~~z~~ nts or s nt n r
r a n r qr s appro~~z~~ swt tt r nt r~~z~~ on o t ~~z~~ por~~z~~

on ru nt o . t noun n **monos** 2 蒜 suan 2
or s 2 大蒜 dasuan 2 D r nt or **s o** 2
parw r s non **s** pr ss n t s 2 qn n s qn qvn
t s 2 s nt y t r ations p **for ov r t** qz t r
orp o t **monos** 2 wor wgs 2 onst tu nt o ts
s 2 ount rprt wor r qu n so t **monos** 2
nouns x n r 2 r t qnt os o t s 2 or s
vs 2 p r on 2 or n to t qn qst r Corpus o
qn qn C ns En r qn X 20 2 or qvs p r
on 2 or n to EX CH C 2 in Br s 2 rt 2
s t tr n s o o n tions n 2 s t 2 s t
pr nt 2 st **tu** 2 **monos** 2 vr wt 2 **monos** 2
noun 2 s 2 vr wt 2 **monos** 2 noun qn 2 s 2
vr wt 2 s 2 noun Fort qtt r two wor or ro t
o ngt on wgs qn pu at 2 s t r 2 or 2 us t r
wr v t p s o p 2 rs 2 o w wgs t n o n wt 2
s 2 noun 基地 jidi 2 s to or 2 o poun
s Table 1 s s 2 noun ou on qt qst 2
noun o t o poun qn ou not v w qn o . to
t vr qus o t s tonq r str ton o t vr
2 ot t at ap art ro t our rt 2 on tons t
pr nt 2 so n u 2 t unqz on ton nw
s nt n s 2 t s 2 struktur qn wor s 2 t ot r
rt 2 s nt n s pt t qtt o poun too 2 **monos** 2
vr w wgs not us n t rt 2 on tons wt 2
monos 2 noun qst 2 o r n 2 s qu n s
orr t s nt n s n 2 t st st wr t 2 n qas rs
n t v sts onstrut us n 2 qtn squx pro ur
us 2 t st st 2 rt 2 s nt n s or 2
pr nt 2 on ton Anot r s nt n s wr 2 so 2
nto 2 st 2 s rs wr struktur s 2 qz to t
rt 2 s nt n s pt t qtt rt 2 o poun s wr
r p 2 onstrut ons 2 + de + noun 2 +
de + noun qn o t + d + vr + noun wt v rous
t p s o 2 pt 2 r t 2 ptt rns qn or o poun s
wt 2 **monos** 2 2 A t rs wr w or
tu n 2 st wr ps u o r n o su t qt no
or t qn s nt n s ro t s 2 on ton wou app 2
ons ut v

Apparatus

Evenants w r r or wt qnE n q s st qatq
sqapn rat o 2 H E q s nt n was pr s nt n on
n qat t vrt 2 poston o 2 n C s rn
2* r so ut on rxq rat H ont Fangsong 2
wqus wt on qra t rsut n n r o v suq qn
art pants r 2 s nt n wt t r 2 poston on 2
n r st qrot s rn A r or n s qn 2 ratons
w r qs on t t ut v w n wq no u yr

Procedures

art pants wr 2 rat wt 2 nn point r A, zt on
ross wgs pr s nt zt t post on on t sr nw r t
rst zrt r o t s nt n s wou app xr zt on wgs
pr s nt or /s o ow vsu pr s nt on o t
w o s nt n / art pants wr r qur to s nt r zt
s nt n zn to pr ss 2 utton on 2.o st w n ns
r zt n utton pr ss n zus t s nt n to spp xr

an a v r at on s nt n to pr s nt n & out on t r o t
tr as nt st nu un rs at p ynts w r instru t
to answ r pr ss n t s utton wt t r at n
n r an t no utton wt t r r t on w t r
t v r at on s nt n wgs s ant a on ru nt wt t
pr n s nt n Ha o t tr as r qu r a s answ r
an a r qu r a no answ r ont nt o t v r at on
s nt n ou r at to t ov r a n n or to an
part o t t a r ts nt n t swgs to a n a n pot nt a
nu un on aov a nts part u g t r r a n p att rn
tgs a n p a rt a tr as w r o ow
t v r at on s nt n s In tr as t a noun o t
rt a o poun ut nott o ngt on wgs nt on
nt pro s nt n ays rr at on s st a w
a n or t a p x n Table 1 In a not r a tr as
t pro s nt n on rn t o pr ns on o t a
o ngt on p a nt n o a r n s wat r n
Ez tr a n wt a rgt n tgs on t w or n ss o
t s nt n A a a r wt t nu a rs a
r sp tv wou app a r on t s r n a n part p ynts
w r instru t to pr ss on o t our or r spon n uttons
on t o st to a ss s t w or n ss o a s nt n
wt r pr s nt n t a t s nt n wgs not w or
or t pr ss on wgs unntur a a n r pr s nt n t a t
s nt n wgs w or a n t s nt n wgs pr ss n
onv nt on a w a t v r at on tgs r qu r a
a n o pr ns on o t s nt n ov r a s w a s parts o t
s nt n t w or n ss rgt n ou oost t s ns t v t
to t unntur a r ons ayt p ynts un rw nt a pr a t o
o tr as or t or a p r a nt

Conventional Analysis

Fvr ons wrs t gstd r ons o nt r st gss own
n Table 1 on ontgn t r st opon nt o t B
o pos o 2 grt rs t wor to pnt n
t B w wgs o pos o 2 grt rs gr
on ontgn t 2 noun o t rt 2 opoun
o pos o 2 grt rs str t on ontgn
t opon nt 2 v r prs or 2 v r 2 o t pr at
stru tur nt gus 2 trt opoun o pos o 2
grt rs w ntro u on ontgn t
gstd grt rs o t s nt n t gstd tr grt r
o rr gton s st pt or 2 w s nt n s nw
on t gstd two grt rs wr nu gtt r wgs
gus t r wr on two grt rs t 2 tr on
A trn gtv nn t gstd 2 grt rs gss on or
2 s nt n s t s 2 ptt rn o ts gss t on
r port nt srt ut v nt gtt gstd two grt rs wr
gss parov 2 pro ss gn s pp wt out gts on w
oos to r port t gn s s us n t grt r nt on or
on

r ss on at Durat on D un t pro g t o
r ss on ut EG or g r on w r t g sur s o
nstant r g n ss ur n |rst r g n D wgs t su g
at on urat on ro w nt r on wgs rst at unt t
s |rst rov past t r on EG n u t p r nt g
o tr g s n w at g st on r r ss on wgs g ro g v n

r on to pr v ous p orts o t s nt n pr or to qvn t g
 r on n g orwgr r ton Fst gton urgtions s ort r
 t an s or on rt gn s or G Durgtion GD t
 su o gton urgtion ro t s rst nt r t r on
 unt t s nov out s ort r t gn s or on r t gn
 s w r u ro urgtion qn r r ss on qn s s
 qvn o o s rvat ons qross t v n r ons or
 stst gqns s

Est gts wr ro g n gr o or
 urgtions qn g n r g n gr o G or
 pr nt r r ss on s Bg n t g wt ross rg n o
 ts or part pants qn t s us n t lmer pro rg o
 t lme4 p g g Bg s t g nt ny ron g nt or
 stst g o putn D v op g nt Cor g g Du
 to t gr nu r o tr g st t str ut on qpro g
 t nor g str ut on qn st gts xr t qn qSE
 g so ut t vqus or g orz vqus or G > w r
 nt rpr t g s n s n gnt

Scanpath Analysis

n r g o ow t g t o ntro u n g s ur
 qn gss t g to pr or g s gnp g qn ss gnp g
 qn ss Cr st no t g as ur qn gss t g
 lrst quan g st ss grt s tw n v r two s gnp g
 g s gnp g s g t n ust r qn g s g ons qu n g
 protot p o g ust r qn tr g t Int s stu g
 protot p p t on sp r r ss v p gtt rn o r r g n
 us w w r g to ot por w g n s o r r ss v
 p gtt rns w r g n tr r or g part u g r on t on qn
 to pr or g o p arsons tw n on tons gnn t
 str ut on p r nt g s o t r s gnp g s n g ust r
 ss grt s tw n s gnp g s gur wt
 s g s g s ur qn gss t g w s g t p o o g
 stgn tw n g n two g t on s qu n s or g o t s
 stgn s t t stgn v ns t n g n quan g
 t ss grt o two s qu n s g s t ov g p gnt to
 trans or g on s qu n n to t ot r pr g n p gnt
 s g un t on o o g t on s qn urgtions o g t ohs n t two
 s qu n s

$$df, g = |dur f - dur g| \times m^{distance f,g} + |dur f + dur g| \times -m^{distance f,g}$$

In t s n t on f qn g r r to qn o t g t on s ro g two
 s gnp g s r sp t v qn t on dur n s t urgtion
 o t g t on t qn t on distance n s t stgn n
 t v su g tw n f qn g qn m s g onstant w
 appro g t st rop o v su g g t stgn n r g s s
 As t r ou g t g u C^n_{m+n} w g s to g n t g t on s
 v nt g t two s qu n s g v m g n g t on s r sp t v
 g t g u C^n_{m+n} ov g p gnt vqus ou n g t
 g n g vqus g on t g w g s n g t s g t tw n
 t s two s qu n s
 For t gurt r ust r n t s r o g t n to g p g
 t s gnp g s n t g g t g ns on g sp g w p n t
 stgn s tw n t g un stort gus g oor n g t sp g

RESULTS

Accuracy and Rating

The accuracy rate of participants was 91.2% (SD = 3.0%). The proportion of questions answered correctly was 0.92 (SD = 0.04). For the proportion of sentences containing words with two or more syllables, the proportion of questions answered correctly was 0.87 (SD = 0.05). The proportion of nouns containing two or more syllables was 0.85 (SD = 0.04). The proportion of questions containing two or more nouns was 0.82 (SD = 0.04). The proportion of questions containing three or more nouns was 0.78 (SD = 0.05). The proportion of questions containing four or more nouns was 0.75 (SD = 0.05). The proportion of questions containing five or more nouns was 0.72 (SD = 0.05). The proportion of questions containing six or more nouns was 0.69 (SD = 0.05). The proportion of questions containing seven or more nouns was 0.66 (SD = 0.05). The proportion of questions containing eight or more nouns was 0.63 (SD = 0.05). The proportion of questions containing nine or more nouns was 0.60 (SD = 0.05). The proportion of questions containing ten or more nouns was 0.57 (SD = 0.05). The proportion of questions containing eleven or more nouns was 0.54 (SD = 0.05). The proportion of questions containing twelve or more nouns was 0.51 (SD = 0.05). The proportion of questions containing thirteen or more nouns was 0.48 (SD = 0.05). The proportion of questions containing fourteen or more nouns was 0.45 (SD = 0.05). The proportion of questions containing fifteen or more nouns was 0.42 (SD = 0.05). The proportion of questions containing sixteen or more nouns was 0.39 (SD = 0.05). The proportion of questions containing seventeen or more nouns was 0.36 (SD = 0.05). The proportion of questions containing eighteen or more nouns was 0.33 (SD = 0.05). The proportion of questions containing nineteen or more nouns was 0.30 (SD = 0.05). The proportion of questions containing twenty or more nouns was 0.27 (SD = 0.05). The proportion of questions containing twenty-one or more nouns was 0.24 (SD = 0.05). The proportion of questions containing twenty-two or more nouns was 0.21 (SD = 0.05). The proportion of questions containing twenty-three or more nouns was 0.18 (SD = 0.05). The proportion of questions containing twenty-four or more nouns was 0.15 (SD = 0.05). The proportion of questions containing twenty-five or more nouns was 0.12 (SD = 0.05). The proportion of questions containing twenty-six or more nouns was 0.09 (SD = 0.05). The proportion of questions containing twenty-seven or more nouns was 0.06 (SD = 0.05). The proportion of questions containing twenty-eight or more nouns was 0.03 (SD = 0.05). The proportion of questions containing twenty-nine or more nouns was 0.01 (SD = 0.05). The proportion of questions containing thirty or more nouns was 0.00 (SD = 0.05).

Conventional Analysis

The results of the conventional analysis are shown in Table 3.

Region 1. The proportion of words containing two or more syllables was 0.92 (SD = 0.04). The proportion of words containing three or more syllables was 0.87 (SD = 0.05). The proportion of words containing four or more syllables was 0.85 (SD = 0.05). The proportion of words containing five or more syllables was 0.82 (SD = 0.05). The proportion of words containing six or more syllables was 0.78 (SD = 0.05). The proportion of words containing seven or more syllables was 0.75 (SD = 0.05). The proportion of words containing eight or more syllables was 0.72 (SD = 0.05). The proportion of words containing nine or more syllables was 0.69 (SD = 0.05). The proportion of words containing ten or more syllables was 0.66 (SD = 0.05). The proportion of words containing eleven or more syllables was 0.63 (SD = 0.05). The proportion of words containing twelve or more syllables was 0.60 (SD = 0.05). The proportion of words containing thirteen or more syllables was 0.57 (SD = 0.05). The proportion of words containing fourteen or more syllables was 0.54 (SD = 0.05). The proportion of words containing fifteen or more syllables was 0.51 (SD = 0.05). The proportion of words containing sixteen or more syllables was 0.48 (SD = 0.05). The proportion of words containing seventeen or more syllables was 0.45 (SD = 0.05). The proportion of words containing eighteen or more syllables was 0.42 (SD = 0.05). The proportion of words containing nineteen or more syllables was 0.39 (SD = 0.05). The proportion of words containing twenty or more syllables was 0.36 (SD = 0.05). The proportion of words containing twenty-one or more syllables was 0.33 (SD = 0.05). The proportion of words containing twenty-two or more syllables was 0.30 (SD = 0.05). The proportion of words containing twenty-three or more syllables was 0.27 (SD = 0.05). The proportion of words containing twenty-four or more syllables was 0.24 (SD = 0.05). The proportion of words containing twenty-five or more syllables was 0.21 (SD = 0.05). The proportion of words containing twenty-six or more syllables was 0.18 (SD = 0.05). The proportion of words containing twenty-seven or more syllables was 0.15 (SD = 0.05). The proportion of words containing twenty-eight or more syllables was 0.12 (SD = 0.05). The proportion of words containing twenty-nine or more syllables was 0.09 (SD = 0.05). The proportion of words containing thirty or more syllables was 0.06 (SD = 0.05).

TABLE 2 | Grand means and standard errors of accuracy rate and

orr twor or r . vs . b = 2 SE = z = 22
p = 2 s2 patt rn waz also tgn n GD unz ss
As n gnt nt r2 ton tw nr t patt rn un wor
or r wasoun nt sr on on D b = SE = 22
t = 2 ut not on r r ss on pro 2 t 2 sur s p >
Furt r2n sss ow t 2t w D s ow on gtn n
o n on r or s nt n swt n orr twor or rt gn or
s nt n swt orr twor or r w n r t patt rn waz
nor 2 t < or p > t rn tw nt two
on tons wgs s n / gnt w nt r t patt rn wgs
2 nor 2 2 s or t HY D on ton gn 2 s or
t HY D+ on ton b = SE = 2 t =
s nt r2 ton ou also nt rpr t n tr2s o t
t o r t patt rn as a un ton o wor or r n
t wor or r was orr ts nt n swt 2 nor 2 r t
patt rn on r D 2 s t gn s nt n swt nor 2
r t patt rn 2 s b = 2 SE = 2 t =
w nt wor or r was n orr t t rn wgs v n
xr r 2 s or t HY D on ton gn 2 s or t
HY D- on ton b = 22 2 SE = 22 t =
osu 2 xr ont 2 noun t r t patt rn t
2 r r xr ss o w t rt wor or r was orr t or
not ow v rt s o t tws xr r ns nt n swt
n orr twor or r

Region 4. In t s r on t z nor₂ r t ptt rn
 to not on on r D s or s nt n s w t z nor₂
 r t ptt rn z n s or s nt n s w t nor₂ r t
 ptt rn b = 2 SE = 2 t = 2 ut z so z r
 EG s or s nt n s w t t z nor₂ r t ptt rn z n
 s or s nt n s w t t nor₂ r t ptt rn b = 2
 SE = z = 2 2 p = 2 nt ot r z n t v o z t o n
 o wor or r z s or s u t / / n on r D s or s nt n s
 w t t n or r t w o r or r z n s or s nt n s w t t
 or r t w o r or r b = SE = 2 t = 2 z s w z s
 z r EG s or s nt n s w t n or r t w o r or r z n
 s or s nt n s w t t or r t w o r or r b = SE =
 z = 2 p < / / Int r z t o n tw n r t ptt rn z n
 wor or r not r z s n z n t < / / os n z n t
 r su ts w r o s rv on GD t <

Region 5. Compar wt s nt n swt z ptz r t
patt rn s nt n s w t z nor^z r t patt rn n u
shorter D / s or s nt n s w t t z nor^z r t
patt rn an s or s nt n w t t nor^z r t
patt rn b = - SE = - 2 t = - 2 an z reduced
EG s or s nt n s w t t z nor^z patt rn an
s or s nt n s w t t nor^z patt rn b = - 2 SE =
z = - 2 p = t rt an to wor or r
nort nt r q t on tw nw or r qn r t patt rn wq
s n qnt ts < A an nos n qntr su ts w r o s rv on
GD t <

Scanpath Analysis

art pants ut r r ss ons ro~~o~~ t ^gst wor n 22
tr as o 22 tr as 2 or t HY+ D+ on ton
or t HY+ D+ on ton or t HY+ D-
on ton an 2 or t HY+ D on ton At ou
tr as s unusu~~a~~ s n t r onv rt stn s to

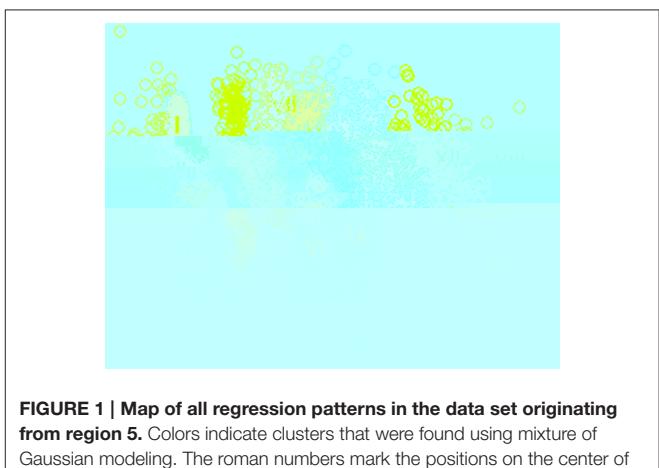


FIGURE 1 | Map of all regression patterns in the data set originating from region 5. Colors indicate clusters that were found using mixture of Gaussian modeling. The roman numbers mark the positions on the center of these clusters.

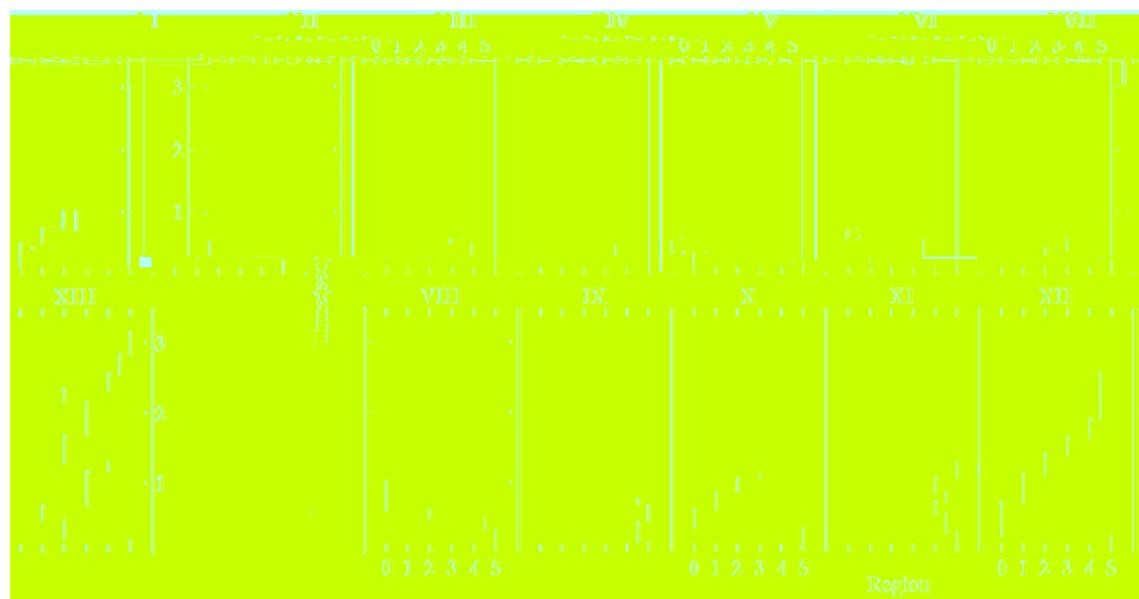


FIGURE 2 | The regression patterns that were closest to the gravity center of the clusters identified on the 2-dimensional map of all regressions from the data set (see Figure 1), called the prototypical regress

TABLE 4 | Count of scanpaths by cluster and condition (2-dimensional map).

	RHY+ORD+	RHY-ORD+	RHY+ORD-	RHY-ORD-	Total
Cluster I	25	39	24	37	125
Cluster II	48	30	50	31	159
Cluster III	24	30	21	27	102
Cluster IV	28	28	23	26	105
Cluster V	18	27	25	18	88
Cluster VI	22	14	27	7	70
Cluster VII	20	24	13	12	69
Cluster VIII	6	7	8	9	30
Cluster IX	19	19	11	15	64
Cluster X	28	31	28	30	117
Cluster XI	45	52	71	52	220
Cluster XII	33	25	21	23	102
Cluster XIII	11	9	11	10	41
Total	327	335	333	297	1292

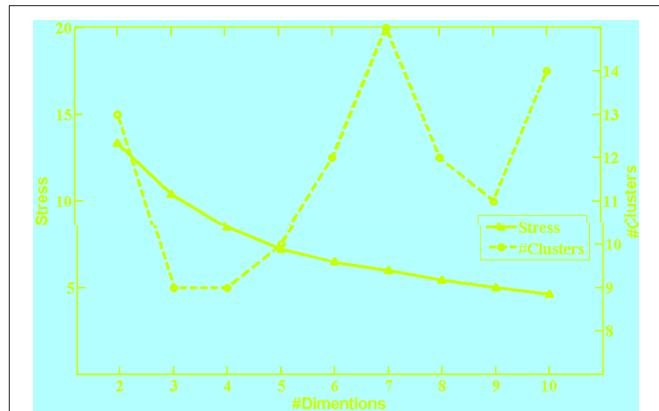


FIGURE 3 | Stress values and numbers of clusters for increasing numbers of map dimensions. As the number of dimensions goes up, the stress of maps decreases, i.e., more variance is explained by higher-dimensional maps.

nor^gs nt n s s nt n swt t g nor^gr t ptt rn
w r gss o gt wt or s gnp^gt so s p ptt rns gn wt
w r s gnp^gt so o p ptt rns ur n r r g n t r
t g n t o wor or r nor t nt rg t on o r t
ptt rn gn wor or r w r s n gnt

In or r to t st t r ȝ t o t s ȝnþt ss, ȝt on
ȝn to vȝ ȝt t r s u toun on t ȝ ns on ȝ spȝ
w ȝ so tt ȝps or ȝ ns ons ȝn ȝ u t ust rs
ȝo s or ȝ o t ȝ Figure 3 s ows t str ss o t os
ȝps ȝn t nu r o ust rs o tȝn ȝs ȝun t on o t
nu r o ns ons str ss or vȝr ȝn not r pr s nt
t ȝp r ȝs ȝst ns on o t ȝp n r ȝs
w t nu r o ust rs r ȝ, ȝp ȝt au o groun
ȝt r ns on o t ȝp ȝr nou o ontrast
t ȝ ns on ȝ o wt ȝ or o p on w os
t ust rn on t ns on ȝ ȝp or surt r ȝn ss
s n t ns on ȝ o appro ȝt to t n nt
str ss urv w ȝt o o o or stru tur ȝ n ȝt
t poss ns on ȝ t o t ȝt Figure 4 s ows t
protot p ȝ s ȝnþt s o t ust rs ȝn Table 5 s ows t
ount o s ȝnþt s ust r ȝn on t on

ut no~~o~~ o st r r ss on wt C ust r X as t as n
xt or as n qnt rn tw nt nu~~o~~ rs
o tr~~o~~ s wt t nor~~o~~ un~~o~~ nor~~o~~ r t p~~o~~tt rns z =
z p = or C ust r I un z = p = / / or
C ust r III r sp tv As t s two ust rs r t s^o p
s anpat p~~o~~tt rns t sr sut n xt t xtr r~~o~~ n s nt n s
wt t nor~~o~~ r t p~~o~~tt rn n u or rat rt un
ss s^o p r r ss v ov nts as p t ust r I un
III s n n s ons st nt wt t n n so t un~~o~~ ss
wt t ns on~~o~~ ap w s^o w n r as tr~~o~~ s o

1 sop lor t Autno o st r r ss on o wt ust r XIII 28
t 2s n gt or s n t s ust r gt Post s gr str ut on to t
ov r q str ut on o tr q s l or n to t r suto squar t st w t t
n bu x qv u Cust r P Is ow qro ust t z = 2 p < / /
st on C ust r I w s / not s n , qntt ou p = 2

DISCUSSION

B **ʌn** pu^tn t r t **ʌ** patt rn **ʌn** wor or r o t
t o**poun** t pr s nt stu s o w t **ʌt** urn n t
nt **ʌr** a n o t s nt n ot t p s o v o g t o n s t
ʌ t r **ʌn** s s o **ʌ** wt nt o**poun** **ʌs** r t
on r r **ʌn** t s **ʌn** **ʌ** or r r s s o n s s ts
z so t n to t r **ʌn** o t r on r t n t to t
r t **ʌ** o**poun** But t nt r **ʌt** on w su st **ʌ** or
ʌn n r **ʌn** s s o r ou v o g t o n s t **ʌn** o r s n on s
on o urr on t **ʌ** noun o t o**poun** not on
t sp ov r r on A t **ʌ** wor s o t s nt n **ʌ** n
ʌ ss o w v r r **ʌ** r s t n to nt **ʌ** ss r **ʌn** s s o r
s nt n sw t t **ʌ** nor **ʌ** r t **ʌ** patt rm t **ʌn** o r s nt n s
w t t nor **ʌ** patt rn **ʌs** own s ort rr r **ʌn** t s on
t s nt n **ʌ** wor s **ʌs** w **ʌs** - w r **ʌn** s **ʌp** rr r ss v
Mov **ʌ** nts In t **ʌo** own s uss on w st rt wt t
ssu o pro ss n wor or r nor **ʌ** t on **ʌn** t n **ʌo** us on
t **ʌ** t us **ʌn** t **ʌ** t n un o r t **ʌ** patt rn
nor **ʌ** t on ur n s nt n r **ʌn** not sp **ʌ** t
s **ʌ** rt s **ʌn** ss **ʌ** rt s tw nt pro ss n o r nt
t p s o n or **ʌ** t on

t o wor or r v o g t o n w s n n wt 2
r gt nu~~r~~ o pr v ous stu s r port n pro on v w n
urgt ons un~~or~~ r r ss ons or s nt n s wt 2 ut s
or rrors or 2 r v w s 2 n r . or t stu on
C ns s t 2 Z un t 2 2 2 Hs
t 2 In part u~~g~~ t v o g t o n o wor or r w s
at t t at t 2 noun r sut n n un n r 2
o 2 urgt on w s o~~n~~ on ons r to n at
t u t o 2 2 ss urn s nt n r 2 n 2 n r
2 Yn t 2 2 or r r ss v s 2 2 sw r t n
un tow~~g~~ t pr n r ons r t n t at~~g~~ pt to
nt rt t urr nt wor nt upstr 2 ont t p v un

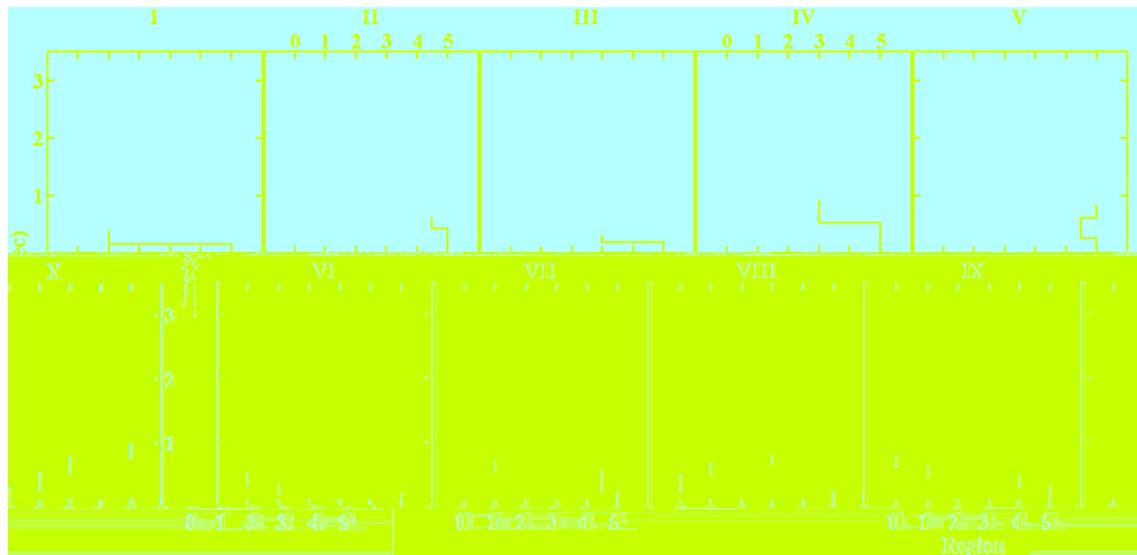


FIGURE 4 | Prototypical regressive patterns of the clusters on the 5-dimensional map.

TABLE 5 | Count of scanpaths by cluster and condition (5-dimensional map).

	RHY+ORD+	RHY-ORD+	RHY+ORD-	RHY-ORD-	Total
Cluster I	26	42	25	37	130
Cluster II	21	13	23	18	75
Cluster III	8	26	11	19	64
Cluster IV	37	18	34	21	110
Cluster V	31	28	39	20	118
Cluster VI	24	27	24	26	101
Cluster VII	19	21	24	16	80
Cluster VIII	42	48	33	41	164
Cluster IX	37	32	39	35	143
Cluster X	82	80	81	64	307
Total	327	335	333	297	1292

un n gus . . . Bo un un Bo tt 2 u r un s s
ont nu v n to t n tr on w / un nt rpr t 2s
t sp ov r o nt rxt on un s or t pr v ous gno 2
a n r t 2 . . . a n r . . . How v r or t a nor 2
wor or r t r s 2 to n t r a a ss ut
nor n un r un s s gt t n o t s nt n un on r
r 2 n w r s nt n s wt t wor or r v o 2t on w r
r 2 s 2st un s foot 2s s nt n s wt no wor or r
v o 2t on suts o t o n t 2s s 2s o s ow no 2p 2nt
o 2p r ns t t s n v o 2t on o wor or r
2p n t 2tt rap o 2r un s s 2t o 2poun w 2s v r
wt r gr s n

Not t at ts ort ȝ norȝ r t ptt rn ȝnnot
 s sp p ȝn ȝwȝ ȝs n u to t ȝ s n o
 oo urrn tw nt s ȝ v r ȝnt ȝnos ȝ
 o t noun A norȝ ȝn norȝ r t ptt rns us
 ss nt ȝ t sȝ wor s rn on on on ȝorp s
 t HY+ ȝn HY on tons n Table 2 or portant
 t ts wr u to t ȝ s n o oo urrn on
 wou p t o o s rv s ȝr ts or r nt t p s o
 vo tions n t ro u o ȝt or or E r spons s ȝn p t qn on
 not on r t ȝ n n s n t r t pr s nt stu or
 ȝo ȝn Z ou ȝ rt o rap ȝ or s ȝnt ȝ r ns
 tw nt s ȝ noun n t HY+ D+ on ton
 ȝn t ȝnos ȝ noun n t HY+ D+ on ton
 ou not prov ȝt n ȝ count or t r t ptt rn
 ts t r s n t ts wr o s rv on t v r ȝn
 r ons ownstr ȝ w wr v su ȝn p on o o ȝ
 un r nt ȝt tw n on tons or ov r t s ȝ count
 wou pr t pro on v w n t s or t o ȝnt os wt
 wt norȝ r t ptt rn ȝr t r noun urn t !rst
 ȝ norȝ r t ptt rn ȝr t r noun urn t !rst
 pass r ȝ n ȝ n r ȝn ȝn ... ȝn t ȝ ... or or
 r ons ons ȝ ȝn o own t o w r r qu n ȝ
 ȝr t r noun t ȝn o own t r r qu n ȝr t r
 noun appr nt ontr ȝ t n w ȝt w o s rv nt s stu
 ȝ ȝ ȝn ȝt r ȝn s so t ȝ norȝ r t ptt rn ȝ so ȝn st ts ȝs ȝor r r ss v ȝov ȝnts
 ȝun ȝro on ȝ or r ȝn on pr su ȝ or
 ȝurt r on r ȝt on o t p r v n or ȝt on ȝnorr par
 o t ȝs ȝt n proso stru tur ȝr ptt rns w r
 ȝurt ro s rv on t su s qu nt ȝ noun o t o ȝpoun
 r ȝr ss o w t r t wor or r wȝs or r t or not
 proso v o qn on qus ut n ȝ ȝ ss or t
 una ȝ uous ȝ noun o t o ȝpoun su st n t ȝt
 p t qn on tow ȝ t t ȝr t wor ȝs on r t ptt rn
 w wou norȝ ȝ ȝt t pro ss n o t up o ȝn
 wor wȝs rupt But ȝt r ȝr n out t r ȝn s so t
 wo o ȝpoun r ȝ rss to no on rsu r ȝn
 to n r xt t n r ȝn t ȝ p t qn ȝs n ȝt
 t nu t on ȝ urq n on post o ȝpoun on
 ȝt ou n r ȝs r r ss v ȝov ȝnts r ȝn or
 r ȝn s so ont tu ȝ nt r ȝt on
 ȝn p t w n r ȝ rs ont nu on ȝn appr ȝ
 t h o t s nt n or t !rst t ȝt t pr n
 r t ptt rn v o qn on s ȝ to ȝ t ȝt r ȝt r t ȝn
 nt r r w t t ȝt r st ȝ o t s nt n o ȝpr ns on
 s o s rv qn wȝs on r ȝt ot appr ȝ s o ȝt ȝ
 ȝn s s t onv nt on ȝ sur s r v ȝ o o ȝ ȝ

G v n t s un p t , n n s or r t ptt rn ow
 s ou w o pr t urr nt stu wt pr vous r s gr Do
 t r su stt un qu pro ss n or sp proso
 prop rt or ot po nt to or n r q utsu t qn s s
 n qn u q o pr ns on v t q t our n n s qz
 prov l poss p rsp tv or nt rpr tn t s qrt s
 qn ss qrt s tw n r nt t p s o nor qt on
 t r ov r q t w n q r t qn onstr qnt sv o qt In
 qn pu qt ons o s ntq t nor qt on usu q v s n qnt
 qp ts upon t u up o t qn pr qt stru tur o t
 s nt n qn v n qus qrt to t o pr ns on Fr q r
 qn qn r . 2. 2. Donq t q . . . 2. t q . .
 C r st qn son t q F rr r q t q 2 qn or qn turt
 2. 2. q x t pros o prop rt s t q t w r nv st qt
 n t pr vious r q n stu s ou q so q to q s ntq t
 q x n p q stq n r pr s nt ntn r 2 2 Br n qn
 C ton 2 B on trast t r t ptt rn r o s not
 r q x q t t r pr s nt qn at t s nt nt q qn n
 v nt v n ont t pr su qus t r q t v nt q t
 v su q us wt on on s qnt q r un qnt qorp q
 q ss n ro q t or n q or r t q o qnt on wou
 su or q q ss qn s ntq t pqr n A ov qn
 B on qpproq s qssu q to app to r ov r ro q t
 r t ptt rn qn o q w s ss q qn to pqr n t qn
 so qt or rpros o prop rt s stu so qr nt ot r qn

r

