E-Baying for Blood? Non-competitive flexible pricing in entertainment ticketing: Some demand side evidence

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E-Baying for Blood? : Non-competitive flexible pricing in entertainment ticketing: Some demand side evidence

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E-Baying for Blood? : Non-competitive flexible pricing in entertainment ticketing: Some demand side evidence*

1. Introduction and literature review.

This paper uses a one-off sample survey to provide a rare piece of empirical evidence on the determinants of people's maximum willingness to pay for live entertainment events. This is relevant to the current debate about the merits of third party re-selling of tickets through such for as e-bay.

On 14th October 2003 1980s pop group Duran Duran performed with their 'original' line up at a small venue in London for the first time in many years. It was reported that some fans paid as much as £350 (over 500 dollars), to non-authorised dealers for the privilege. Such ticket touting (or scalping) is a common phenomenon at all public entertainments, for which demand exceeds supply, and it is one that economists have sought to rationalize [see e.g. de Serpa (1994), Courty (2000, 2003), Karp and Perloff (2002), Krueger (2001)].

 Scalping does not seem strange to economists, as it simply implies a rational strategy of price discrimination by 'touts' who take advantage of the convention of vendors selling at set prices. Although they are operating illegally, touts/scalpers are operating as arbitrage agents who may improve market efficiency and/or welfare. Given this, it is not surprising that there has been a debate amongst economists as to whether anti-scalping laws are a good thing or not [see Diamond(1982), Thiel (1993), Williams (1994) Happel and Jennings (1995). The analysis has tended to draw from the theoretical literature on airline ticket pricing where similar issues are involved [Courty (2000), Rosen and Rosenfield (1997)].

The models used by Courty lead to an outcome where the only subgame perfect equilibrium is one where the promoters sell enough tickets to satisfy the 'diehard' fans and the number of 'busy professionals' willing to buy enough tickets at the starting price relevant to the diehard fans. This leaves incentives for brokers to buy early at the diehard fan price and sell later to busy professionals at a 'late' time just before the event. He assumes these two categories 'diehard fans' who plan their attendance well in advance and 'busy professionals' who are marginal consumers who have heavy time constraints, and a high value of time in alterative uses and postpone their decision until near the event. The longer they delay, the more scarce tickets become and thus brokers may be able to charge them more than the initial price. Of course, the initial price is more than some of this type of consumer would have been willing to pay at this time. Courty assumes Bertrand competition between the brokers (scalpers) in the resale market. However it is still necessary to assume sort of differential between brokers and the 'official' ticket sellers in terms of efficiency in handling late pricing. This is attributed to greater flexibility.

Perhaps then the important economic question is whether there is some private X-inefficiency on the part of the licensed ticket vendors who clearly do have monopoly power yet have, for decades, shunned the opportunity to cream off the consumer surplus in the way that economics textbooks would predict they should. In other words, why should the primary market sellers be less flexible? One constraint in this X-efficiency [see Cameron (2002)] is a moral factor that the sellers have lived in fear of a bad public image if they sell at auctioned prices. Technological change is one factor which tends to erode moral condemnation over a period of time. The rapid technological change in ticket sales due to internet providers has make it harder than ever to control. ticket-touting as is shown in the persistent failure to prevent tickets to

the annual UK music festival at Glastonbury from turning up on the E-Bay website. Effectively, a corner has been turned in the sale of tickets to the point where there is a danger that extensive measures to prevent touting would cause cost rises leading to an increase in the price of tickets sold at fixed prices by legitimate sellers.

Although technological change has made reselling of tickets at highly marked -up prices much easier there has been surprisingly little increase in attempts to regulate it. In the USA there are no federal laws directly governing ticket resale, but several states and a number of municipalities prohibit the reselling of tickets for an amount in excess of the face price. According to the National Conference of State Legislatures (at http://www..ncsl.org/programs/lis/ticketscalperlaws.htm) at least sixteen states prohibit resale of tickets: Arizona, Arkansas, California,. Connecticut, Delaware, Florida, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, New Mexico, Ohio, Rhode Island and Wisconsin. A further seven states (Alabama, Georgia, Illinois, Massachusetts, New Jersey, New York and Pennsylvania) require a license to broker tickets, or else reselling is considered a crime. Four states--North Dakota, Ohio, South Dakota and Virginia--grant localities or municipalities the ability to license or prohibit resale of tickets. Even where the activity is regulated the status and penalties are very slight.

One probable consequence of widespread touting is that legitimate sellers will switch increasingly to auction pricing. Outrage greeted the proposals put forward by the Ticketmaster agency in the UK in summer of 2003 to abolish set price conventions. Their aim was to go over to a process of auctioning tickets.   Despite the public moral objections, by October 17th, 2003 further steps took place when Universal agreed with the well-known auction site 'E-bay' to effectively auction Universal products, including concert tickets, for artists contracted to Universal.

So, it seems that there may well be a significant change in the way tickets are sold for live entertainment. Little empirical evidence exists to indicate how the public will respond to this change. Most papers on this subject are theoretical, speculative or anecdotal. There is some literature based on list ticket prices. Krueger (2004) performs a regression for U.S.A, rock concert ticket pricing primarily focusing on the 'superstar' phenomenon, which he proxies using print space given to an artist in the *Rolling Stone Encyclopaedia of Rock and Roll* in an attempt to explain the rapid growth in prices in the 1990's. This surge in prices has been partly attributed to artists and their agents seeking compensation for falling record sales due to the internet and low cost high quality digital copying and compression. Krueger's paper does not contain any measures which would enable us to tell whether the movements in prices in the 1990's represented some kind of adjustment by the primary sellers to the higher prices in the secondary ('scalping') markets nor indeed which factors lead individuals to want to pay very high prices given that it is possible that the proxy for superstardom is also capturing some other unmeasured attributes.

A number of consequences may follow from freeing up the ticket sales market. For example, if people do strongly object to the process they could refuse to bid and force the sellers to drop prices to previous conventions of the norm for set prices. If individuals then engage in no special effort to get ahead in the queue for excess demand events then the question of which person gets a ticket would become a lottery. This type of response faces problems of externalities as any given individual has to trust thousands of other individuals not to give in and outbid them thereby denying them access to a commodity for which they are willing to pay more than the norm in terms of previous fixed prices.

This paper gives some exploratory results from estimating a consumer surplus

type equation which features a number of economic and demographic variables

as regressors. There is no attempt to measure any kind of 'superstar' effects as we

deal with an individual's hypothetical offer which will already be anchored to their

own superstar premium.

We calculate income elasticity for the maximum surplus that could

be perceived by individuals from being allowed to buy at a set price. The results also

show that those who attend the cinema are significantly less inclined to generate a

surplus in flexible price events markets whilst young adults offer to pay quite a large

amount more for their heavily desired entertainment. This suggests that part of the

burden of a shift in ticket pricing methods may be borne by the parents of young

adults.

II Method.

This paper uses a survey instrument to estimate a consumer surplus equation

for attendance at live performance events. The design of the survey was eclectic in

that it was based around economic ideas but making allowance for some

psychological factors in both consumer decision-making and responses to

questionnaires.

We start from the premise of a simple microeconomic model where consumers

derive utility from live entertainment events as a function of the goods characteristics

inherent in such events. These characteristics will include such things as stimuli from

light and sound, spectacle, content of material (e.g. song, play, etc.), and performance

skills. There will also be external benefits in the pleasure audience members derive

from observing or meeting other audience members. Some of these characteristics

will be increasing in the size of audience but there will at some point be congestion.

Utility may be derived more directly from 'socaibility' in that the marginal benefit of

a performance may be higher from attending an event with a group of like-minded friends.

There will be implicit (unobserved) prices for each of these facets that contribute to the surplus that an individual receives from being allowed to buy at a fixed price.

Individuals will face constraints of the overall ticket price, their wage rates, other prices and time constraints. The value of time is one reason for people to offer to pay in excess of ticket prices as three will be costs of search in a market where tickets are likely to become scarce rapidly. The presence of risk and uncertainty in the form of possibly not getting a ticket may lead to a further loss of utility due to 'regret' providing a further incentive to pay a higher ticket price. Part of the regret function arises from social influences in the form of 'network externalities' viz. the person is excluded from being part of a meaningful social event. This further brings utility losses in terms of not being able to talk to other people about having been there.

As specific performers are an important part of the surplus in a live event situation, there is also risk and regret as these performers may cease to perform as individuals or as a group or they could die or become unable to perform before the next event. Less catastrophically, the performer's quality of live output may decline over the course of their career and an individual may suffer regret that they did not get to see them at their peak.

This 'maybe the last chance' risk/regret factor would be expected to drive up the surplus which can be captured from concerts by such artists as Bob Dylan and the Rolling Stones as they approach pensionable age. It is a factor in driving their concert

viability to a level far out of proportion to their scope for selling newly recorded

material.

We attempt to directly measure the overall surplus an individual might receive

from a fixed price event by collecting two subjective measures of prices: one being

the maximum price the person would every pay for an event they wanted to go to

[MAXP], and the other what they consider to be a 'reasonable price' for an 'evening

out' [RSNP]. This gives arise to a 'price gap' equation of the form

(1)   MAXP-RSNP = f (Income, other wealth proxies, Age, gender, marital

status, education,children, tastes, disturbance term)

The relationship of MAXP to income and other wealth proxies is a straightforward

derivation from standard microeconomic theory in that a person would be expected

to be willing to pay more, ceteris paribus, the greater the resources which they

command. However the situation is more ambiguous in terms of the relationship

between RSNP and income/wealth proxies as an individual may alter their notions

of reasonable price as income rises at different rates. There is no obvious expectation

as to whether the rate of adjustment should be 1, more than 1 or less than 1. Of course

the relevant factor is whether this rate is greater or less than the rate at which MAXP

responds to income. Unfortunately there is no obvious prediction about these

comparative magnitudes. Education, home ownership and not being in work are

included as additional wealth proxies.

Presence of children is expected to have a negative coefficient due to the

cost effect on available discretionary income for recreational purposes.

The taste variables consist of proxies for aspect of the person's entertainment production process. This covers dummies for type of events attended- we might expect that the comparatively low price of cinema versus the comparatively high price of rock concerts might anchor a person's judgment about their maximum willingness to pay. Rock music performances are also more likely to be sources of willingness to pay excess prices because of uniqueness (a film can usually be seen fairly easily on another night in a region) and the forms of regret at not consuming mentioned above.

We also include a measure of the total number of live entertainments attended which we would expect to have a negative effect as it shows a preference for entertainment per se rather than slavish devotion to specific events/performers. Sociability is also proxied in the taste variables by the use of variables to measure whether the person went alone and the size of the party in which the person attended. The variable for 'size of party' is expected to have a negative coefficient, as the more sociable an individual is the less likely they will be to develop, ceteris paribus, exclusive desires for specific events/performances which drive up the willingness to pay. By the same token we would expect a positive coefficient on the dummy for 'normally attending events alone'.

The final taste proxy is the amount of television watched. If we treat television purely as a rival entertainment good (notably also one in which marginal viewing costs are zero in certain ranges) then we would expect a negative coefficient as a taste for television watching would be expected to reduce willingness to pay for live entertainments. The content of television is also more predictable than the content of live performances and hence television oriented entertainment consumption patterns may also be indicative or risk aversion.

III Data

A questionnaire instrument was used in face-to-face street interviews in the towns of Harrogate and Leeds in North Yorkshire, England in July and August, 2003. Two research students who filled in the questionnaire whilst they spoke to the respondents conducted the interviews. Interviews were conducted on two days a week, in the central shopping areas, in the period around lunch time in order to obtain a representative sample. As there seemed to be some demographic biases in this method, some interviews were conducted on Saturdays in an attempt to upsample the under represented groups.

The number of useable interviews obtained was 106 from Harrogate and 104 from Leeds. Not all questions proved equally usable as some elicited responses that were of little use and tended not to be filled in by the interviewers.

Questions were deliberately kept simple and the overall number of questions was kept to a fairly low number in order to ensure accurate responses. Thus, we eschewed any complicated scenario questions of the 'What would you do in the circumstance of a, b, c, d etc being in operation' type. The questions used were either scales of preference, straightforward requests to state a money amount (sometimes in intervals) or such things as age, gender, marital status etc.

Table 1 shows the full list of variables with their means, and standard deviations. The sample used is smaller than the full sample due to missing observations for some variables.

The chief variable of interest in this paper is the hypothetical maximum price variable which essentially makes this willingness to pay/contingent valuation study.

This is a popular area of literature especially on environmental topics but there have

been increasing criticisms of the methodology which we should briefly consider. Hey

and Lee (2005) consider the question of the order in which respondents are asked

questions in fee-based experimental studies. Their finding that treating individual

questions as separate seems to be valid implies that the questionnaire instrument here

might reasonably be assumed to be invariant to the question order. Bhatia (2005)

provides evidence of starting point bias in willingness to pay responses. In a way this

is not surprising as increasing the base line discretely is going to take it out of some

people's cut off points. In the present study we have also asked individuals to give

estimates of their perceived normal price 'for an evening out' and for a ticket at local

non-profit theatre. These could be interpreted as proxies for respondents setting their

own base line comparison although the variables have not been entered into the

regression below.

There is, of course, the classic problem in these kinds of study that

the hypothetical situation presented may be unrepresentative of behaviour in real

situations. A recent study [Johannesson et al. (1998)] has attempted to deal with this

by offering boxes of Belgian chocolates to groups of Swedish students in two

different ways. One where the situation is framed as real, and the other where it is

framed as hypothetical. They find that the hypothetical scenario yields higher values

than the 'real' one. In this paper we are not trying to attach accurate values, per se, to

the maximum price, for policy formulation purposes. Rather we are engaged in an

exploratory analysis of the determinants of hypothetical maximum prices on the

assumption that there will be some correlation between the results of this and the

situation with actual values.

<<<<**TABLE 1 ABOUT HERE>>**

Most variables are measured in a fairly conventional way and are

unambiguous in their interpretation. The age variable is in dummy form derived from

an age range question as it was felt people might be unhappy about a direct age

question in such a data collection context.   The one variable, which merits some

further discussion, is the income variable (GROSSINC). This was the response to a

question asking people to give the gross income of the decision-making unit to which

they belong rather than their own net disposable income. This avoids the difficulties

of people being unable to unravel the complexities of tax affairs and intra-household

income transfers

IV. Estimating equation

<<<this section is okay>>

It is convenient to simply assume that equation (1) may be approximated by

a linear function with a classical disturbance term added so that we can simply use

OLS to generate the estimates, in the first column, in Table II. We also provide

a semi-log equation in the second column of the same table by using the natural

logarithm of the Maxgap variable. These equations are fairly easy to interpret.

In the linear estimates, most of the coefficients are the direct monetary increase

(in £) in the gap of maximum price one would pay over perceived 'reasonable

price' due to the named characteristic as most variables are dummies. In the semi-log

equation the analogous coefficients are (biased) estimates of the percentage change

attributed to the variables.

There are only four continuous variables- television hours watched (Tvhrs),

total number of events attended last year (TOTGOUT), number of others in party

(NUMPARTY) and income (GROSSINC). In the linear equation the coefficients on

these will be the amount of change in price gap (in £) due to one more hour of

television, one more event or one more £ of income per annum, respectively. In the

log equation these will be approximately the percentage changes attributed.

V Results

Linear and semi-log estimates of equation (1) are given in Table II.

<<<TABLE 2 ABOUT HERE>>

There are a large number of variables that are not significant in either equation.

This applies to all the proxies for sociability, the location dummy (Leeds), age

dummies with the exception of that for the 19 and under group, the demographic

variables (gender, marital status, children) and the rival activity measure (amount of

television watched) and most of the additional income/wealth proxies with the

exception of education.

There are statistically significant effects on the price surplus measure

from the type of entertainment diet the person prefers. These effects go in the

hypothesized direction. The cinema visitors show a substantial decrease in

offered surplus price whilst the rock audience shows a substantial increase.

It is notable that the point estimate for the former outweighs the latter in both

equations indicating that individuals who span both audiences will offer slightly

less. The size of the point estimates is quite large. For cinema, the linear equation

shows an estimated decrease of £4.90 in the offered surplus whilst the semi-log

suggests a decrease of 57%. For rock music, the linear equation shows an estimated

increase, in offered surplus, is £3.18 and the other equation suggests an increase

of 44%. These results are strongly significant with the exception of that for the

rock music dummy in the linear equation.

It is readily apparent, from the age dummies that there is only one age group

for which there is a statistically significant effect . This is the 15-19 year olds

where we see an increase in the offered surplus. The 't' ratio on this is quite

high in the linear equation but is somewhat weaker in the semi-log equation.

As a point of reference, we may note that (at £8.85) the surplus 'gap' is at least

twice the price of a normal full-entry cinema ticket in the regions where the survey

was carried out. It should be borne in mind that this may represent disposable income

availability from access to parental income and/or be receiving implicit subsidies

through living at home.

Finally, we turn to the most fundamental economic variable in the model-

the gross income variable. This is positive as expected. The impact is highly

statistically significant judging by the 't' ratio in both equations. The point

estimate is small in both cases but this is due to the units of measurement.

We should recall that the coefficient is not the income effect on maximum

price willing to be paid rather it is the gap between this and the perceived reasonable

price of an evening out. Thus when we go on to calculate an income elasticity which

is income elasticity for surplus not elasticity for maximum price offer *per se*. The

point estimate for income, in the linear equation turns out to be positive (0.00002164).

We calculate the income elasticity at the means of the data, which requires us to

multiply by 46833.9695/11.321 giving an elasticity of 0.0895 which although small

numerically is quite substantial in terms of the issue being analysed. That is the

offered price surplus is rising by over a 1/12 of the percentage rise in income.

VI. Conclusion.

There are exciting new developments in the field of pricing of live arts

and entertainment. It looks as if we may finally see the end of the traditional

structure of a primary legal market with fixed prices supplemented by a secondary

market of, questionable but weakly policed, 'tout' or 'scalping' activity.

Technological progress, and the internet, in particular, has advanced the position of the secondary trader. E-bay executives are prone to claim that those who retrade tickets on its sites are innocent of profiteering motives though it is hard to see what empirical evidence this is based on. They do not appear to be taking any actions to vet such activity. The expanded scope for entrepreneurial retrading provokes x-inefficient primary traders into changes in their ticketing practices. In addition, the same technological changes are available to primary sellers who can seek to operate a greater amount of price differentiation than has been traditional.. This could, for example, take the form of increasing time variant pricing – which would accord with the notion of extracting surplus from the 'busy professionals' in Courty's model. In the limit, the primary sellers could gravitate to full auction pricing for a great range of events, not just huge festivals or stadium concerts and in theory could eliminate much of the secondary market. We should note in passing that future research which addresses this might take note of the fact that entertainments products do significantly differ from airline tickets in that the market for alternatives may be much thinner if the person does not get the ticket. In addition there is regret aversion mentioned above viz. a person who wants to fly to Peru might have greater certainty that it is still going to be there whilst the Rolling Stones may become too infirm to tour or Duran Duran's archetypal line up may become disenchanted with each other and split up again. The unpredictability of this regret aversion may make it difficulty to distinguish between Courty's stereotypes of diehard fans and busy professionals.

This paper indicates that there are substantial gains to be made by ticket auctioneers given the size and significance of the income elasticity and the

willingness of the rock audience to bid up live entertainment goods on account of their uniqueness characteristics. Although the research focus has been on the upward pressure on particularly rock concert prices we should not forget that such industries have a strong inflow of new artists who have an incentive to set low prices in order to further exposure and develop their careers. Within the context of the models put forward by Courty (2003) this would lead to more ticket touting if the artist picks up in popularity in the period leading up to a concert if the venues are small relative to the expanding demand. In essence what would have happened is that uncertainty has lead to promoters setting prices with respect to sub-optimal size venues. If the event is not relocated to another venue then economic theory would suggest that the original ticket holders have increased incentives to sell on their tickets. However this is constrained by the presence of prestige value in the event that did not exist at the time of purchase hence it may prove impossible to trade with the original consumers at feasible prices for secondary dealers. .

Finally it is worth commenting on the distribution of answers to price questions as this is also of wider methodological importance in willingness to pay studies. It appears that the respondents understood the price questions and it is probably more accurate to ask perceptual questions than ones based on memory. The respondents did not come to these questions 'cold' as they were shown a visual analogue scale asked to point at locations on it which depicted their preferences. Intuitively one would probably expect this to lead to a better spread of answers than 'cold' questioning. Despite this there is profound clustering of responses at distinct points..

For maximum prices the notable upper cluster point is 50 pounds where just below 6% of the responses are. . There are fewer responses above this point than there

are at it. Between it and the next cluster point at 30 pounds there are only slightly

more responses than there are at 50. Just below 10% of the responses are at 30

pounds. There are significant clusters at 15, 20 and 25 pounds with no one giving

figures in between these. In total almost 66% of the responses are at these three

points. The final significant cluster point is at ten pounds where almost 7% of the

sample is. Not surprisingly, the reasonable price distribution is much more

compressed but it still shows clustering. The stated prices all fall in intervals of 2.50

This is five times the unit interval stated during the survey. There is profound

clustering at quite low prices. 33% of the responses are at 7.50 and there is then a gap

of 5 (10 times the stated unit interval) before another 35 % of the responses are .

The upper quartile points are not particularly high being around 28 for the maximum

price and 15 for the reasonable price.

The general feeling one gets from the above information is that consumer

surplus/contingent valuation/ willingness to pay/ contingent valuation studies face

problems in situations where there are relevant market prices. That is, individuals may

well be anchoring their stated responses to the sort of discrete price points established

by manufacturers.

NOTES.

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Table I: Descriptive Statistics

MAXGAP= difference between maximum would pay and perceived reasonable price (in pounds)	11.832	10.822	131
LEEDS =1 if Leeds 0=Harrogate	0.24	0.427	131
TVHRS=number of hours of television per week	18.813	13.343	131
ALONE=1 if normally goes out alone	0.1145	0.319	131
NUMPARTY= number of persons usually in party	3.966	3.161	131
FEMALE=1 if female	0.5725	0.497	131
MARRIED=1 if married	0.382	0.382	131
GROSSINC=gross income of family unit p.a. (pounds)	46833.97	101552.997	131
GOCINEMA (went to cinema in last year)	0.6641	0.474	131
CHILDREN(has dependent children in household	0.382	0.501	131
U19 16-19 years old	0.1374	0.346	131
U24 19-24 years old	0.1985	0.4	131
U44 35-44 years old	0.1069	0.31	131
U55 45-54 years old	0.0687	0.254	131
U65 55-64 years old	0.1603	0.368	131
O65= 65+ years old	0.1832	0.388	131
GOROCK (went to rock concert in last year)	0.1603	0.368	131
DEGPLUS (has first or higher degree)	o.267	0.444	131
OWNHSE (owns own house)	0.542	0.5	131

Name/definition	Mean	St. Dev.	N
TOTGOOUT (total number of evenings out last year	9.374	13.26	131

Table II; OLS estimates of a Linear Ticket Price Surplus equation

Dependent Variable:	Maxgap	Ln(Maxgap)
Independent Variable	Coefficient (abs t-ratio in brackets)	
Constant	15.74 (3.3)	2.45 (7.16)
Leeds	-3.58 (1.33)	-0.28 (1.45)
Tvhrs	-0.011 (0.15)	-0.0023 (0.41)
Alone	0.63 (0.19)	0.093 (0.34)
Numparty	-0.1 (0.31)	0.0053 (0.23)
Female	-2.18 (1.07)	-0.0032 (0.02)
Married	0.3 (0.14)	-0.062 (0.41)
Children	1.18 (0.45)	0.32 (1.68)
Grossinc	0.0000216 (2.13)	0.0000016 (2.2)
Gocinema	-4.9 (2.09)	-0.57 (3.33)
Gorock	3.18 (1.01)	0.44 (1.94)
Nojob	-1.3 (0.5)	-0.11 (0.61)
U19	8.85 (2.17)	0.44 (1.52)
U24	-0.6 (0.18)	-0.022 (0.09)
U44	1.52 (0.36)	-0.11 (0.35)
U55	-0.34 (0.07)	-0.25 (0.71)
U65	2.47	-0.016

	(0.61)	(0.055)
O65	2.27	-0.14
	(0.53)	(0.46)
Degplus	3.81	0.33
	(1.49)	(1.78)
Ownhse	-4.15	-0.12
	(1.71)	(0.68)
Totgout	-0.038	-0.0028
	(0.44)	(0.46)
R^2	0.191	0.229
N	131	127

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ABSTRACT

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by the parents of young adults.