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## Substance use among tricycle drivers in Federal Capital Territory, Abuja

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### ABSTRACT

Substance use is an increasing trend and has become one of the most disturbing public health problems. The study aims to assess substance use and its effect among tricycle drivers in Federal Capital Territory, Abuja. A cross sectional study using Questionnaires among 360 tricycle drivers in FCT, Abuja was done. They were selected using Time location sampling and simple random sampling. Chi square test was used at  $p < 0.05$ . Findings show that prevalence of substance use was high 291(80.8%). The most used substances were alcoholic beverages 291 (100%), tobacco products 260 (89.3%) and bitter cola, kolanut, 256 (88.0%). Only 35(9.7%) of the substance was prescribed by a medical personnel. Knowledge on effects of substance use was high 291 (80.9%). The effects of substance use on the physical health liver damage 261(72.5%), hand tremors 251(69.7%), high blood pressure 214(59.4%). There was a significant association between the age, educational status, marital status, ethnic origin, religion and income level of the tricycle riders and their abuse of substance (P-value  $<0.001$  in all cases). The prevalence of substance use among tricycle riders in FCT, Abuja was high and there was significant association of characteristic with substance use. There is need for intervention to reduce the health burden associated with substance abuse among through health education on the dangers of substance use at all levels. More attention has been drawn recently to substance use and driving because of road traffic accidents causally related to substance use.

**Keywords:** Substance use, tricycle drivers, FCT.

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## INTRODUCTION

Globally, substance use is an increasing trend and has become one of the most disturbing public health problems.<sup>1</sup> Substance use is a growing concern as it is common finding among drivers whose life and safety of their passenger are under their control.<sup>2</sup> Presently, the use and abuse of substance including drugs in Africa is frightening.<sup>3</sup> Literature shows that South Africa is a renowned country for substance use and misuse just as other African countries.<sup>3</sup> This has been the most serious problem the government agencies have to contend with in Democratic Republic of Congo.<sup>3</sup> In Nigeria, the use and misuse of substance has been found to be mostly pronounced in the urban areas as compared to rural areas where most users isolate themselves from public gathering during consumption.<sup>4</sup>

Even though the use and misuse of substances are prohibited in Nigeria, many people consume these substances in public recently without any positive reaction from the law enforcement agencies to stop this activities.<sup>5</sup> There are laws and policies with some backed up with actions for a drug free society developed by government agencies, non-governmental organizations and international bodies with yet the problem of substance use persists and worsening. Also, these enacted laws to halt substance use in Nigeria are mostly compromised by law agencies and implementers as they are part of users of these substances.

Substance use impairs the skills necessary for driving and could possibly be the cause of road traffic accidents which are often fatal leading to severe injuries and death. More attention has been drawn recently to substance use and driving because of road traffic accidents causally related to substance use.<sup>6-9</sup> Substance use does not always lead to addiction as many people consume alcohol or certain drugs occasionally without being addicted however, the use of substance usually emanates with the risk of addiction.<sup>10-11</sup> There are different contributory factors to use and misuse of substances which includes sociocultural, psychodynamic, cognitive-behavioral, and biological factors.

Psychodynamic factors are emotional issues, past history and psychological disorders that contribute to a person's addiction.<sup>12</sup> For instance, someone who has experienced abuse or disheartening issues might feel scared and powerless thereby venturing into alcohol or drugs consumption owing to those demoralizing experience. In most cases, psychodynamic factors are subconscious as most victims do not realize that they are using or depending on substances like drugs or alcohol to deal with their problem. In drug prevention and control among drivers, programmes may be designed and implemented to specifically focus these influencing factors identified to prevent increased risk for drugged driving. Socio-demographic variables such as age, sex, religion, and education are known to influence behaviour and may be relevant for drug control among commercial drivers.

Only a few studies were found to provide information on the socio-demographic factors associated with substance use among commercial drivers in Nigeria<sup>13,14</sup>. Most of these studies were carried out on long distance commercial drivers and none on short distance drivers like tricycle drivers. Hence, the need to evaluate the magnitude of substance use among this population group in an urban city in Nigeria. This research evaluates the effect of substance use on tricycle drivers in Federal Capital Territory Abuja. It assesses how substance use affects their lifestyles and how their lifestyle impacts on commuters and society at large.

## MATERIALS AND METHOD

The study area was at Federal Capital Territory FCT, Abuja, which is the capital city of Nigeria. It comprises six local government areas (LGA), commonly called area councils, namely: Gwagwalada, Kuje, Abaji. Abuja Municipal, Bwari and Kwali. However, the study was at Abuja Municipal area council as there are no tricycles in the other five area councils. Tricycle drivers are permitted to ride in about thirteen regions in Abuja municipal area council including; Gwarimpa (estate), Life camp, Lokogoma, Gariki village, Jabi, Utako, Prince and princess estate, Karu, Nyanya, Galadimawa, Area1, Apo and Gudu. This study was at these regions.

It was a descriptive cross-sectional survey using a pretested, semi-structured interviewer administered questionnaire developed by the researcher. The instrument was validated through pre-testing by administering 36 copies of the questionnaire to tricycle drivers in Enugu state (another state). The target population comprised 2,521 tricycle riders (from register) in the identified regions in Abuja municipal area council. A total of 360 registered tricycle riders that have valid driver's license and gave informed consent were studied. They were selected by Time Location sampling technique to get respondents in groups and simple random sampling to select respondents. The number of drivers selected from each motor park was determined by the proportional allocation of a calculated sample size.

Ethical clearance was from Health Research and ethics Committee of University of Nigeria Teaching Hospital Ituku/Ozalla. Permission was also gotten from head of parks. Respondents were told the purpose and nature of the study and an informed consent obtained from them. They were assured of confidentiality of shared information and freedom to withdraw from the study if he/she wishes.

Statistical package for social science (SPSS version 23) was used for analysis. Frequency and percentage statistics were used to report for categorical variable while means and standard deviation were used for numerical variables. Test of association of variables was performed was done using Chi square test at statistical significance level of  $p < 0.05$ .

## RESULTS AND DISCUSSION

Table 1 shows the socio-demographic characteristics of respondents. The mean age of the participants was 32.5 ( $\pm 7.2$ ) years. More than half (61.9%) of the participants were within the middle age category of 30 to 60 years. They were almost all males 358 (99.4%). Those with tertiary education were the highest group 126 (35.0%). Majority of the participants 178 (49.4%) were married while another 110 (30.6%) were single. Hausa/Fulani were the dominant ethnic group among the respondents 144 (40.0%) followed by Igbos 103 (28.6%). The dominant religion among the participants was Moslem 191 (53.1%). Those with a monthly income ₦50,100 - ₦100,000 and ₦18,100 - ₦50,000 made up the highest 128 (35.6%) and 125 (34.7%) respectively.

Table 3 shows the commonly used substances among the participants. The overall use or prevalence of any psychoactive substance among the respondents was 291(80.8%). The commonest used substance among the respondents was alcoholic beverages 291 (100%) which is equivalent to all the users of substance. This is followed by the use of tobacco products 260 (72.2%) which has 89.3% lifetime use. The third is the use of bitter cola, kolanut, etc. 256 (71.1%) which has 88.0% life time use. Others include; cannabis with 71.5% lifetime use, amphetamine-type stimulant 68.4%, sedatives or sleeping pills 66.0%, opioids, heroine, etc. 48.5%, hallucinogens 26.1%, cocaine 9.6% and inhalant 8.9%.

Table 3 shows attributes of substance use among the participants. The neglect of family responsibilities due to substance of use was 271(75.3%). Use of substance to the extent of having financial problems was 265 (73.6%). Use of substance to relief stress, fatigue and exhaustion was 241(66.9%). Others include using more than one substance at a time with 73.5%, not going through the week without using substance 68%, been involved in an accident due to substance use 34.7% and use of substance by injection 24.4%.

Table 4 above shows the knowledge of the effects of substance among the respondents and authorization of drugs. The overall knowledge of the effects of substance among the participants was 291 (80.9%). The highest score was observed in the knowledge that substance use increases possibility of addiction 351 (97.5%). This was followed by increased aggressiveness 341 (94.7%), impaired vision while driving 316 (87.7%), personality disorder 299 (83.1%), sleep disorder 288 (80.0%), involvement in fights 259 (71.9%), raises self-confidence 256 (71.1%), increases forgetfulness 242 (67.2%), cures anxiety and depression 224(62.2%) and increases euphoria and happiness 198 (55.0%). The table also shows only 35 (9.7%) of substance used were prescribed and majorly prescribed by traditional doctors/herbalist 13(37.1%) as well as Pharmacist 10(28.6%).

Table 5 above shows the effects of substance use on the tricycle operators. The physical health effects among the participants were liver damage 261(72.5%), hand tremors 251 (69.7%), high blood pressure 214 (59.4%) and headache 189 (52.5%). The psychological health effects of substance use on the participants were mental illness 311 (86.4%), emotional problem 290 (80.6%), poor concentration 281 (78.1%), restlessness/nervousness 276 (76.7%) and increased aggressiveness 263 (73.1%). The social health effects of substance use on the participants were financial issues 312 (86.7%), alters family relationship 270 (75.0%), affects sense of responsibility 229 (63.6%) and makes one violent 224 (62.2%).

Table 6 shows the relationship of substance use to socio-demographic variables of participants. There was a statistically significant association between substance use and age groups ( $\chi^2 = 215.913$ ;  $p = 0.000$ ), education ( $\chi^2 = 196.444$ ;  $p = 0.000$ ), marital status ( $\chi^2 = 341.443$ ;  $p = 0.000$ ), ethnic group ( $\chi^2 = 281.328$ ;  $p = 0.000$ ), religion ( $\chi^2 = 196.779$ ;  $p = 0.000$ ) and income ( $\chi^2 = 347.455$ ;  $p = 0.000$ ). Table also shows there was no statistically significant association between the knowledge of the participants and their abuse or use of substance ( $\chi^2 = 0.001$ ;  $p = 0.545$ ).

**Table 1: Socio-demographic characteristics of respondents**

<b>Characteristics</b>	<b>Frequency (n=360)</b>	<b>Percent</b>
<b>Age Groups (years)</b>		
20 and below	48	13.3
21-30	89	24.7
31 – 40	121	33.6
>40	102	28.3
Mean $\pm$ SD (years)	32.5 $\pm$ 7.2	
<b>Gender</b>		
Female	2	0.6
Male	358	99.4
<b>Education</b>		
Primary education and below	118	32.8
Secondary education	116	32.2
Tertiary education	126	35.0
<b>Marital Status</b>		
Single	110	30.6
Married	178	49.4
Widowed/Divorced/separated	72	20.0
<b>Tribe</b>		
Igbo	103	28.6
Hausa/Fulani	144	40.0
Yoruba	63	17.5
Others*	50	13.9
<b>Religion</b>		
Christianity	130	36.1
Moslem	191	53.1
Traditional religion	28	7.8

Others	11	3.1
<b>Monthly Income (₦)</b>		
<18,000	36	10.0
18,100 - 50,000	125	34.7
50100 -100,000	128	35.6
> 100.000	71	19.7

\*Others: Tiv, Idoma, Efik, Ibibio, etc.

**Table 2: Commonly Abused Substances**

Substances	Ever Used (n = 360)		proportion among users (291) (100.0)
	Yes n (%)	No n (%)	
<b>Overall Use of any Substance</b>	<b>291 (80.8)</b>	<b>69 (19.2)</b>	
Tobacco products (cigarettes, chewing tobacco, cigars, snuff, utaba etc)	260 (72.2)	100 (27.8)	(89.3)
Alcoholic beverages (beer, wine, spirits/hot drinks, kaikai/gogoro mixed with anything, burukutu, enu-jeje etc)	291 (100)	69 (19.2)	(100.0)
Cannabis (marijuana, Igboo, monkey tail, pot, hash etc)	208 (57.8)	152 (42.2)	(71.5)
Cocaine (coke, crack etc)	28 (7.8)	332 (92.2)	(9.6)
Amphetamine- type stimulant (speed, diet, pills, ecstasy, meth, crank, chalk, brown fast, chicken feed, etc)	199 (55.3)	161 (44.7)	(68.4)
Inhalant (nitrous, glue, petrol, paints thinner, solution, soakaway, lizard shit etc)	26 (7.2)	334 (92.7)	(8.9)
Sedatives or sleeping pills (valium – 5, serepax, Rohypnol/Rochi etc)	192 (53.3)	168 (46.7)	(66.0)
Hallucinogens (LSD, acid, mushrooms, PCP, special K, SK, zarkami, etc)	76 (21.1)	284 (78.9)	(26.1)
Opioids, heroine, morophine, methadone, codeine, etc	141 (39.2)	219 (60.8)	(48.5)
Others (bitter cola, kolanut)	256 (71.1)	104 (28.9)	(88.0)

**Table 3: Attributes of Substance Use among Tricycle Operators**

Substances	Ever Used (n = 360)	
	Yes n (%)	No n (%)
Do you abuse more than one substance at a time	214 (59.4)	146 (40.6)
Can you get through the week without using substance	162 (45.0)	198 (55.0)
Have you neglected your family due to substance use	271 (75.3)	89 (24.7)
Has the use of substance led to financial problem	265 (73.6)	95 (26.4)
Have you ever used any substance by injection	71 (19.7)	289 (80.3)
Have you been involved in auto accident due to substance use	101 (28.1)	259 (71.9)
Use of substance is it attributed to relief of stress, fatigue and exhaustion.	241 (66.9)	119 (33.1)

*NB: Multiple responses included*

**Table 4: Knowledge of The Effects of Substance and Authorization of drugs**

Substances	Knowledge (n = 360)	
	Yes n (%)	No n (%)
Does the use of substance use cure anxiety and depression	224 (62.2)	136 (37.7)
Substance use increases euphoria and happiness	198 (55.0)	162 (45.0)
It also increases aggressiveness	341 (94.7)	19 (5.3)
It raises self confidence	256 (71.1)	104 (28.8)
It causes personality disorder	299 (83.1)	61(16.9)
It causes sleep disorder	288 (80.0)	72 (20.0)



Substance use also increases forgetfulness	242 (67.2)	118 (32.7)
It causes impaired vision while driving	316 (87.7)	44 (12.2)
There is a possibility of becoming addicted to substance use.	351 (97.5)	9 (2.5)
Substance use gets one involved in physical fights	259 (71.9)	101 (28.1)
<b>Overall knowledge</b>	<b>Freq.</b>	<b>Percent</b>
Yes	291	80.9
No	69	19.1
<b>Substance was prescribed</b>		
Yes	35	9.7
No	325	90.3
<b>Person that prescribed</b>	<b>n = 35</b>	
Qualified medical doctor	7	20.0
Pharmacist	10	28.6
Herbalist	13	37.1
Others	5	14.3

**Table 5: Effects of Substance Use On Tricycles Operators**

<b>n=360</b> <b>Source</b>	<b>Yes</b> <b>n(%)</b>	<b>No</b> <b>n (%)</b>
<b>Physical health effects</b>		
Headache	189 (52.5)	171 (47.5)
Hand tremors	251 (69.7)	109 (30.3)
Liver damage	261 (72.5)	99 (27.5)
Weight loss	151 (41.9)	209 (58.1)
Accident	136 (37.8)	125 (34.7)
High blood pressure	214 (59.4)	146 (40.6)
Impairment of vision	51 (14.2)	309 (85.8)
<b>Psychological health effects</b>		
Emotional problem	290 (80.6)	70 (19.4)
Increased aggressive	263 (73.1)	97 (26.9)
Inability to sleep	61 (16.9)	299 (83.1)
Poor concentration	281 (78.1)	79 (21.9)
Restlessness/nervousness	276 (76.7)	84 (23.3)
Mental illness	311 (86.4)	49 (13.6)
<b>Social health effects</b>		
Alter family relationship	270 (75.0)	90 (25.0)
Make one violent	224 (62.2)	136 (37.8)
Affect ones finance	312 (86.7)	48 (13.3)
Affect sense of responsibility	229 (63.6)	131 (36.4)

**Table 6: Association of Socio-demographic Characteristics of Participants by Substance Use**

<b>Variables</b>	<b>Substance Use</b>		$\chi^2$	<b>p-value</b>
	<b>Ever used</b> <b>n(%)</b>	<b>Never Used</b> <b>n(%)</b>		
<b>Age Groups (years)</b>				
20 and below	48 (100.0)	0 (0)	215.913	0.000
21 – 30	89 (100.0)	0 (0)		
31 – 40	121 (100.0)	0 (0)		
> 40 years	33 (32.4)	69 (67.6)		
<b>Education</b>				
Primary education and below	118 (100.0)	0 (0)	196.444	0.000
Secondary education	115 (100.0)	0 (0)		

Tertiary education	58 (45.7)	69 (54.3)		
<b>Marital Status</b>				
Single	110 (100.0)	0 (0)		
Married	178 (100.0)	0 (0)	341.443	0.000
Widowed/Divorced/separated	3 (4.2)	69 (95.8)		
<b>Tribe</b>				
Igbo	126 (100.0)	0 (0)		
Hausa/Fulani	131 (100.0)	0 (0)	281.328	.000
Yoruba	34 (64.2)	19 (35.8)		
Others*	0 (0)	50 (100.0)		
<b>Religion</b>				
Christianity	130 (100.0)	0 (0)		
Islam	161 (84.3)	30 (15.7)	196.779	0.000
traditional religion	0 (0)	28 (100.0)		
Others	0 (0)	11 (100.0)		
<b>Income (₦)</b>				
<18,000	36 (100.0)	0 (0)		
18,100 - 50,000	125 (100.0)	0 (0)	347.455	0.000
50100 -100,000	128 (100.0)	0 (0)		
> 100.000	2 (2.8)	69 (97.2)		
<b>Overall knowledge</b>				
Good	224 (80.9)	53 (19.1)		
Poor	67 (80.7)	16 (19.3)	.001	0.545

\*Others: Tiv, Idoma, Efik, Ibibio, etc

The study revealed that the prevalence of substance use among tricycle riders in FCT, Abuja was high. Specifically, a larger percentage 80.8% of the tricycle riders was involved in substance use and to a very great extent. For instance, 93.1% of the tricycle riders who were involved in substance use indicated that they used it to the extent of neglecting family responsibilities while 91.1% of those involved in substance use stated that they had used it to the extent that they were now experiencing financial challenges. The implication of this finding is that almost if not all passengers that patronise these tricycle riders are a grave danger of after effect of these substance use including Road Traffic Accident and abuses.

A possible explanation for the increased use of substance among tricycle riders could be drawn from the findings of study in Ilorin, Nigeria which revealed that 60% of tricycle riders believe that augmenting or enhancing their strength with the use of certain substances such as alcohol, cigarette, snuff, etc. will help them relieve stress while increasing their performance and ensuring sleep is either halted or delayed.<sup>26</sup> The finding from this study presupposes that there is need for the various' authorities in the FCT as well as in other stated in Nigeria to urgently intervene to reduce the health burden associated with substance use.<sup>22</sup> Possibly, this could be done through health education on the dangers of substance use among transport workers especially considering the fact that majority of the tricycle operators indicated that they have had family, financial issues as a result of their addictiveness to substance use.



The most used substance among the tricycles riders was alcoholic beverages (100%) such as beer, wine, spirits/hot drinks, etc. This was followed by the abuse of tobacco products 89.3% and bitter cola, kolanut, 88.0%. Other abused substances include cannabis 71.5%, amphetamine-type stimulant 68.4%, sedatives or sleeping pills 66.0%, etc. Similar findings were observed in some previous studies in Australia,<sup>19</sup> Tanzania<sup>20</sup> and Ibadan<sup>21</sup> which reported a prevalence of alcohol use as 77.5%, tobacco 60.5%, cannabis 52.5%, etc.<sup>19-21</sup> The finding also agrees with the report of International Narcotic Control Board which reported that Cannabis, alcohol and tobacco were the most commonly used drugs in Nigeria with 10.8 per cent (or 10.6 million people) of the adult population reporting use in the past year.<sup>17</sup> The finding is in contrast to findings among motorcycle riders which documented use of alcohol 18.6% and cannabis 13.5% etc.<sup>20</sup> However, the prevalence rate in this study is higher than that reported in Ondo State, Nigeria which revealed that the prevalence of cigarette/snuff and marijuana use shortly before or while driving was 11.9%.<sup>18</sup> The possible explanation for the different findings in prevalence rate in the study with that in Ondo State, Nigeria could be adduced to the fact that their study focused on the prevalence of substance use among long-distance drivers while driving which is a different population.

Despite the increased or high incidence of substance use among the tricycle riders as revealed by the study, only 9.7% of the substance was prescribed by a medical personnel while one-third 37.1% of the abused substances were prescribed by mostly traditional doctors. The implication of this finding is that there is a high incidence of non-medical use of substances among the tricycle riders in FCT. This finding should therefore be a source of concern for policy makers considering the fact that similar findings were also observed in the report of the United Nations Office on Drugs and Crime who revealed that less than one per cent of the population in Nigeria, aged 15-64 years, reported past year non-medical use of substance (0.5 percent or 481,000 persons).<sup>16</sup> Similar findings were reported in the study among semirural community dwellers in Nigeria which revealed that the prevalence of herbal concoctions is prevalent in Lagos.<sup>15</sup> Considering the high incidence of non-medical substance use among the tricycle riders, there is need to strictly enforce existing legislations on substance use among transport workers.

The study revealed that the knowledge of the effects of substance use among the tricycle drivers was high (> 80.0%). These include; affirmation that substance use increases possibility of addiction, increases aggressiveness, impairs vision while driving, causes personality disorder, causes sleep disorder, etc. These findings agree with findings in Kano state, Nigeria which revealed that tricycle riders in the metropolis recognised the effects of psychoactive drug use to include; impairment of vision, coordination and navigational abilities as well as increase the risks of accidents. This finding of good knowledge of the

effects of substance use and continue indulging in substance use is ridiculous. Perhaps an explanation for this could be attributed to in a study in Ilorin, Nigeria which revealed that many of tricycle riders in Nigeria use substances for the purpose of fun, refreshment or recreation for body activeness and occasionally for just social purpose.<sup>26</sup>

The effects of substance use on are widely varied including: on physical health eg liver damage, hand tremors, high blood pressure and headache; on the psychological health eg mental illness, emotional problem, poor concentration, restlessness/nervousness and increased aggressiveness; on the social health eg financial issues, family problems, irresponsibility and increased tendency for violent behaviours. These findings are in line with other previous studies which revealed that the effects of substance use include its affects on the psychomotor skills and cognitive functions critical to driving and vigilance, etc.<sup>26-28</sup>

There was a significant association between characteristics of the tricycle riders and substance use. Specifically, those who were in the lower age groups were involved in substance use than those who were above 40 years. The implication of this finding is that there are higher chances of prolonged use, addiction and dependence. Similar findings were reported p\in previous studies in Nigeria.<sup>23,25</sup> Those with lower levels of education groups were involved in substance use than those who had higher levels of education. Those who were singles were involved in substance use than those married. These findings agree with a study in Enugu, Nigeria which documented that drivers who were single, of younger age group and of low literacy level and who had been in the profession for more than 5 years had higher prevalence of drug use.<sup>24</sup>

Furthermore, substance use was higher among tricycle riders who were Igbos or Hausa than among those who were Yorubas. Also it was higher among Christians than Muslims. Similar finding was previously reported on religion.<sup>23</sup> Equally, substance use was higher among those with lower incomes than among those who earned above 100,000 naira per month. Possibly, this finding could imply that frustration as a result of lower income could predispose tricycle riders to substance use or the use of life style may be responsible for their poor earning as it affects their productivity in diverse ways.

## CONCLUSION

The study revealed a high prevalence of substance use among tricycle riders in FCT, Abuja. The most abused substance among the tricycles riders was alcoholic beverages, followed by the abuse of tobacco products and bitter cola/kolanut. Very limited proportion of substance was prescribed by qualified medical personnel. Knowledge of the effects of substance use was high however, majority of use substances. There was significant association of age, educational status, marital status, ethnicity, religion and income level of the tricycle riders

with substance use. There is an urgent need for various' authorities in charge of drug control and administration in Nigeria to intervene speedily in order to reduce the health burden associated with substance abuse among tricycle operators in FCT.

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### **Author's contribution**

LGC conceptualize the study and AEC helped to modify the topic. Both LGC and AEC designed the work. LGC collected data with help of Research assistants, AEC did data analysis. Both LGC and AEC wrote the manuscript as well as approved it for publication.

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