RESEARCH BETWEEN AGGRESSIVE DRIVING BEHAVIOR AND TYPE A BEHAVIOR

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ABSTRACT

Road traffic safety is a major problem and also an important factor which often causes traffic accidents on the road. Defined by National Highway Traffic Safety Administration（NHTSA） aggressive driving is a driving behavior which is harmful to the security of people and properties. In the Meanwhile Type A Behavior Pattern (TABP) has a strong form of aggressiveness, which is not a single present mode of behavior or psychological questionnaire, but a set of behaviors or compound factors such as mood and emotion, based on personality. It can be divided into five different types: A、A-、M、B- and B. Based on reviewing domestic and overseas research，114 drivers including 75 males and 39 females participated in the study and answered the questionnaire of TABP and aggressive driving behavior. Based on that, this paper has analyzed the correlation between TABP and aggressive driving. Finally we found that there is a remarkable relationship between TABP in different dimensions and aggressive driving. This result has significant referential value for research on road traffic accidents.

Keywords: Safety, Type A, Aggressive Behavior, Relationship

INTRODUCTION

The research history of aggressive behavior has been lasting for more than one hundred years, however, regarding the essential definition of aggressive behavior, researchers still can't reach a consensus and there are still many divergences among academics until now. Hartup and Dewit（1974）thought the aggression could be defined based on the aspects as follows:(1) Anatomical nature of behavior; (2) Prerequisite of behavior; (3) Consequences of behavior; (4) Observer's social judgment orient to behavior. Correspondingly, in the field of psychology, there are generally four methods used to define the aggressive behavior, those are: anatomy definition, perquisite definition, behavior consequence definition, and social judgment definition (Zhang Wenxin, 1999).

Ethologists believed that the impetus of aggressive behavior came from organism's inner side world, while outside stimulation was irrelevant. With the aggressive energy accumulating in the inner side, an individual must periodically rely on an opportune stimulation to relax. Ethologists supported the anatomy definition whose defined behavior modes may result in escape or in other person who involved in getting injured as aggressive behavior. Dollard (1993), the presenter of "Aggression- Frustration Theory", believed, people's aggressive behavior was not originated from human's aggressive instinct, but from the frustration, "Frustration is the inevitable promise of the aggression". Berkowitz improved Dollard's view further and pointed out that frustration did not result in aggression directly, but merely provided an aware or preparing condition for the happening of aggression, and the aggression still needed some certain external conditions to trigger. Perquisite definition emphasized the perquisites of the aggression, that is the intention or the willfulness of hurt, and it was believed that 'the goal of aggression is to make the target get injured'. Behavior consequence definition took the focus on the harmful result which caused by individual behavior and used as criterion. According to this view, aggression indicated 'the behavior which results in other individual get injured'. The advantage of this definition is that the result of such behavior can be observed objectively without conjecturing the subjective status such as the intent and motive of the behavior. While, due to this, the definition extended the range of aggression with neglecting the doer's intention which results in some unaggressive behaviors be defined as aggressive (e.g. parents admonish their children and doctors treat the patients etc.). From the view of social judgment definition, scientists considered aggression as a certain judgment on some harmful behaviors according to the characteristics of doers and the behavior itself. Bandura（1983）believed, the social learning procedures of aggressive behavior were mainly consisted by four mechanisms that are: acquisition, initiation, maintenance, and self-regulating. And meanwhile, Bandura believed the study of aggression needs high-level concretion, and the operable definition of aggressive depended on the context.

Parke & Slaby（1983）defined the aggression as 'the behaviors intent to lead one or more other people gets injured'. Loeber（1985）updated that the aggression was 'the behaviors which cause others gets hurt in physical or mental, or causes property loss, no matter illegal or not'. Brain（1994）integrated the four theories and pointed out that aggression was not a unit entirety, but a category formed by various different elements. So before defining, the following four factors should contain: (1) Harmfulness: although not all of recessive harmful behaviors are aggressive behavior, all the aggressive behaviors possess potential harmfulness and destructiveness. (2) Willfulness: the judgment of behavior intention may be unreliable, even the aggressor and victim's judgment may be different or even prejudiced, but the willfulness of the behavior is indispensable. (3) Awakeness: aggressive behavior involves in a

series of emotions and the psychological recognition procedures. (4) Aversion: aggressive behavior must lead to victim's aversion.

Although each definition has its emphases and advantages, disadvantages still exist. For example, the perquisite definition grasps one essential feature of human's aggressive behaviors——willfulness of hurt, but in the process of practical application some serious problems, such as it is hard to observe people's motive directly, were also found, and then the reliability and validity of observation are hard to guarantee.

Although Hauber（1980）had emphasized on both the harmful behavior of aggressor and the procedure which victim suffered injure, and defined the aggressive behavior happened in road as"aggressor wounded victim on physical or psychological, and victim was injured indeed, that is the real intention of aggressor". He, however, did not list which ones belong to aggressive driving behavior. Mizell（1997）has provided a more specialized definition. He thought 'aggressive driving is an accident which means the driver in angry or impatience may intent or try to injure or murder others including drivers, passengers and pedestrians, as a respond of dispute, quarrel or grievance in traffic procedure'. National Highway Traffic Safety Administration（NHTSA，1997）defines that the aggressive driving as a driving behavior which is harmful to the security of people and properties. The trends of the driving behave like speeding, rear collision, overtaking from the right side, running a red light, horn loudly and so on. NHTSA recognized that speeding was an aggressive driving behavior, and according to a survey (1998), the American public generally admitted that. The public even thought extreme speeding (exceed the limit speed more than 20 km/h) was more dangerous than other adventures. Additionally, using vehicles to start aggressive behavior (e.g. rear collision, overtaking on the shoulder, zipping in and out of traffic, transferring lanes incorrectly, impeding others, running a red light and so forth.) and direct or indirect verbal attack (e.g. grumbling, swearing, flashing head light, horn loudly and so on) should be included in the category of aggressive driving behavior . Baron and Richardson(1994) defined aggressive driving as：Intent to cause other gets hurt in physical or in mental. Shinar（1998）provided a distinct definition from an environmental perspective: "Aggressive driving is the functional complication of frustrate driving which directly point to others accompany with the intention to bring physical or psychological injury". Shinar also gave series examples: rear collusion, run a red light, horn loudly, such behaviors as "neglect others" and "venturesome driving deliberately". However, speeding was not included. Shinar believed that although speeding was an adventure behavior, it was not stimulated by traffic conditions or behaviors of other road users. In addition, it is essential to separating issues from violent driving and aggressive driving. Violent driving is considered as an extreme form of aggressive driving which called" road rage", and aggressive driving is only an adventure which violates the traffic rules. Aggressive driving behavior is not deliberate hostile behavior. The aim of aggressive driving behavior is not deliberately collide, murder or harmful to other road users. In fact some aggressive behavior is very common in the daily life. So, it is widely accepted by the public.

In 1950s, American cardiologist Friedman.M and Rosenman R.H (1959) firstly found some people's typical characteristics: ambitious, emulous, lack of patient, hostile, aggressive and driven, called Type A Behavior Pattern (TABP), and called behaviors without such features as Type B Behavior Pattern. TABP is not a single present mode of behavior or psychological questionnaire, but a set of behaviors or compound factors such as mood and emotion which based on personality. It can be detail divided into five different types: A、A-、M、B- and B. A type is the extreme type of TABP, with strong enterprise, competitive desire and time urgency.

People in A type usually express hostile and cannot get along well with others. A^- type is not as extreme as A type. B type is the extreme type of TBBP. Features of B type are lack of competiveness and hostile, but easy work and relax life style contrasting with A type. B^- type are more moderate compared with B type. M type is a compound type between A type and B type.

According to the statistics, the proportion of traffic accidents by TABP drivers in total accidents is 11.46% (Wang Min, 1997). TABP drivers prefer compete with peers in driving. They usually have sense of overtaking, unrealistic self-confidence in driving skills. And they usually think they can drive fast and overrate the mechanic performance of their vehicles. Such kinds of drivers always try to speed any behavior, race against time and speed. When they find their wishes are not reached, they will irritable, angry, and driving with a negative emotion. All above illustrate that the possibility of traffic accidents occurs on TABP drivers is high. There, however, is not any quantitative analysis and research about the relativity between TABP and aggressive driving behavior in the report. TABP is a particular compound of activity and emotion created by sociology or social economy. Friedman thought those people in TABP had Aggravation, Irritation, Anger and Impatient, named AIAI reaction. It is a habitual behavior pattern generated under the background of high industrialization and urbanization. Under such conditions competition emerged in every areas of people's life, so it formed in order to become a winner in the competition. Jenkins (1979), described the performance of TABP from seven aspects：Individual values, thought method, interpersonal relationship, reactive mode, gesture and action, facial expressions and respiration frequency. Its concrete expression is various as strong desires to achieve the predetermined target, with a large but unreasonable aspiration which used to create a strong time urgency, live with a busy tempo, walk, drive in a high speed, hunker in competition and desire to win and wish to get others' attention. People under such behavior intend to do multiple things at the same time. For example, talking when driving a car and they also prefer to do the complicated activities in a limited time in order to show they are better than others. They are good at thinking and response, but easy to be anxious or irritating. When taking part in a work they always want to finish it quickly (Zhu Zhiguang,Liang Hong,2002).

In summary, it can be found that the typical characters of TABP included: over ambition, persistent, contention, irritable, nervous, speaking loudly, bustle, hostile, and aggressive, etc (Kere, 1986; Alloy and Clements, 1992; SHAO Feng, 2003). They set unrealistic objectives, which are difficult to achieve, because of this, they will easily have frustrating felling which is one of the reasons leading to aggression. So people in TABP have strong sense of aggression.

METHODOLOGY

Participants

There are 114 drivers including 75 males and 39 females in the study, to answer the questionnaire about TABP and aggressive behavior. The participants were divided into three groups: drivers who have less than 2 years of experience since they got the lisence (≤2, N= 31); drivers who have 2 to 10 years driving experience (2–10, N= 47) and drivers who have more than 10 years driving experience (>10, N= 36). The average age of the participants is 31 years old (ranging from 18–58 years old). 48 participants had high school degree and 3 of them had graduate student education experience. Additionally, 74.56% of them were not professional drivers.

Instruments

Based on the medical evaluation TABP can be divided into two types . The first one is Video Taped Clinical Examination (VTCE), which also called Structured Interview (SI). The second one is a self-evolution questionnaire survey including Jenkins Activity Survey (JAS), Framingham Type A Scale (FTAS), Bortner Scale (BS), Common Life Scale (CLS), and others as Type A Behavior Pattern Questionnaire (TABPQ) which is invented by Boyuan Zhang.

Structured Interview Formed Questionnaire (Rosenman and Friedman, 1964**)**

SI is a face-to-face comunication method. This method needs to design some standard questions or talking scenarios based on characteristics of TABP, and then the adjudicator observes the responses of the testee, and marks according to these specific responses. Because of the high demands for adjudicators and evaluating with record of video and sound individually, the SI Method is time consuming and costly. So, it is not suitable for widely applications. The well-known U.S. West Collaborative Research used the SI questionnaire in their test.

Jenkins Activities Scale(Jenkins, Zysanski, Rosenman,1979)

This is a widely used method in the United States, which was described and identified by two U.S. medical researchers -- Friedman and Rosenman in the 1960s. It is a self-report questionnaire, with 52 questions, used for testing the percentage of TABP. The level of TABP was presented as ≥50％.

Activities of Daily Living Scale(Yang Xianju,Zhang Ximing,1992)

This scale is popular in Japan which includes 11 questions. It tests TABP tendency from the perspective of daily life, and the normal scope is 43±9.16. If the score is larger than 52, it means the existence of TABP, the tendency of TABP becomes more obvious with the increase of the score.

Bortner Performance Test (Bortner, 1969**)**

It was formulated and developed by Bortner and Rosenman in 1967. There are 14 questions. Original score was given by a visual analogue method using a 1.5-foot-long line. One end is the extreme behavior of Type A and the other is the extreme behavior of Type B. Testees marked their corresponding characteristics on the line.

Type A Behavior Pattern Questionnaire (TABPQ)(Zhu Zhiguang, Liang Hong,2002**)**

TABPQ is a self-report questionnaire which is widely used in China currently. . China's TABP and Cardio-cerebral Vascular Diseases Collaboration Group, refered foreign scales and combined with specific conditions in China . Finally, TABPQ was directly instituted by Zhang Boyuan(1999) in 1984. According to the result comparison with international scales, China's scale has a nice correlation with the others. TABPQ scale has 60 questions and each question has only "YES" and "NO" options. Questionnaires are divided into three parts:①“TH”: 25 questions to test the features such as Time Hurry (TH)；②“CH” : 25 questions to test the

features of Competition, Hostility and so forth; ③"L" :10 lie detector tests to test the reliability of the questionnaire. In the research, the first is to calculate "L" part, ≥7 score indicates that the possibility is low and the questionnaire should be deleted. If else, further study is the score of the other two parts.

PSACIV Behavior Rating Scale

Professional Miao Danmin, at The Fourth Military Medical University in China, established the PSACIV Behavior Rating Scale based on TABPQ and JAS scale in 1992(Miao Danmin et al,1999). The scale proposed a fuzzy statistical method based on interval statistics. It evaluated the natural language which is used in behavior rating, established the data model of behavior fuzzy rating, and proceeded from China's realistic conditions. The questionnaire was improved and reedited in 2007.

In this paper, the authors used a complex behavioral pattern questionnaire, which was improved in 2007. The questionnaire has 40 options (shown as Table 1) to guarantee the result is more reliable and effective, and information can be extracted conveniently.

RESULTS

Exploratory Analysis of TABP

Exploratory Analysis for Factors of TABP

According to analyze the data gained from the investigation with the method of principal component analysis, and exploratory factorial analysis of the 40 items of the meter with varimax procedure, the KMO value is 0.862, Bartlett test result is $\chi 2 /df = 2.49$ and $p < 0.000$, which indicates that the possibility of common element depends on the variables. Three factors whose eigenvalues are larger than 1 are totally got. These three factors totally explained 41.66 % of total variance. Each item load factor is above 0.35, and each item and the maximum load factor have similarities in content, and distinct to another factor, as shown in Table 1.

Table 1 Factor structure and load of Type A complex behavior pattern questionnaire

Item	*Factor1*	*Factor2*	*Factor3*
29 Others say that I am a serious person.	0.612		
30 I often can not endure other people's shortcomings and faults.	0.529		
32 When others are rude to me, I will be an eye for an eye.	0.527		
13 When I am doing things, whoever bothers me, whether intentionally or unintentionally, I will be very annoyed.	0.512		
20 I have never been late for appointments, if the other side holds up, I will be annoyed.	0.503		
17 when I queue up to buy things, if there are some queue jumpers I could not help but be accused or interfered.	0.489		
10 When I listen to someone's speech or report, I am often anxious with him or her, and I think I can do better.	0.463		
5 Sometimes I would be angry or quarrel with other people because of something.	0.432		
37 When I take a bus, I always feel that the driver drives too slow.	0.418		
35 People think I am a simple, neat and efficient people.		0.724	
6 I often feel that I have a lot of things to do, and be pressed.		0.691	
11Whatever I do, I am often faster than others.		0.647	
38 People think I am a very quiet, calm person.		0.643	

33 People think that I work very patiently and not anxious about anything.		0.632	
23I think I have the ability to deal with everything well.		0.629	
4 I like doing things slowly, and always thinking carefully.		0.595	
34 Others asked me to act, I won't delay as long as promised.		0.586	
36 The situation will be much better If the things work by me.		0.572	
1 Sometimes I feel that the things I worried about are far more than those I should worry about.		0.551	
21 I was so busy sometimes, because I have to do too many things.		0.547	
39 I am often worried for the work not to be done in the day.		0.487	
25 When must wait for something, I am always anxious, as the ants on hot pan.		0.476	
28 I always doing things in a hurry, trying to use the least time to do the most things.		0.463	
15 I think I was a very sensitive person.		0.418	
18 I often feel late, but it is early when seeing the watch.		0.403	
27 When someone was picky with my work, I can easily dampen the enthusiasm.		0.394	
30 I have many ideas for the future, and always think all the things can be achieved.		0.386	
2 Even in the absence of any important matter, I generally walk fast.		0.374	
14 I do some work arrangements; however, it is only temporary squeeze time to do.		0.365	
12 I can not, as some people, do things self-confidence.		0.358	
19 When meet someone outside, I usually take some reading material in order to consume the time.		0.356	
31 I also do not care even the leader has very poor level of leadership.			0.643
22 When I heard the criticism, and even the things do not match, I do not care.			0.621
16 Whether doing, even worse than the others, I am not mind.			0.602
9 I often endure even if I had been treated unjustly.			0.567
8 Even cooperating with others, I always want to separate the completion of some more important part.			0.551
40 Many things have many people sharing, but I like to do myself.			0.524
7 I think there are a few people can deserve my trust in the world.			0.476
26 In my spare time, I seldom work at home.			0.457
3 When discussing the question I often try to convince the other side to agree with my point of view.			0.378
Various factors variation explanation volume (%)	16.61	15.43	10.62
Cumulative variation explain explantation volume (%)	16.61	32.04	42.66
Factor name	Irritation Strivings	Pressing Strivings	Hostility Strivings

It can be seen from the above table the first factor includes 9 items. The loads of these items on the factor are various and the lowest value is 0.418, the highest is 0.612. The second factor has 22 items and the lowest load value is 0.356, the highest is 0.724. Similarly , the lowest and the highest load value of 9 items of the third factor are 0.352 and 0.644. Total explained variances of the first, second and third factor are 16.61%, 15.43% and 11.62% respectively. So, the sum of these three values is 43.66%, which means the experiment has good construct validity.

Combining with the research purpose, taking the factor nominating method into consideration, and consulting experts, the authors nominated these three factors respectively as follows: Irritation Strivings (IS), Pressing Striving (PS) and Hostility Strivings (HS).

The first extracting factor is IS which contains 9 items: 29, 30, 32, 13, 20, 17, 10, 5 and 37. This indicates that the driver is prone to be irate, get angry and quarrel with others.

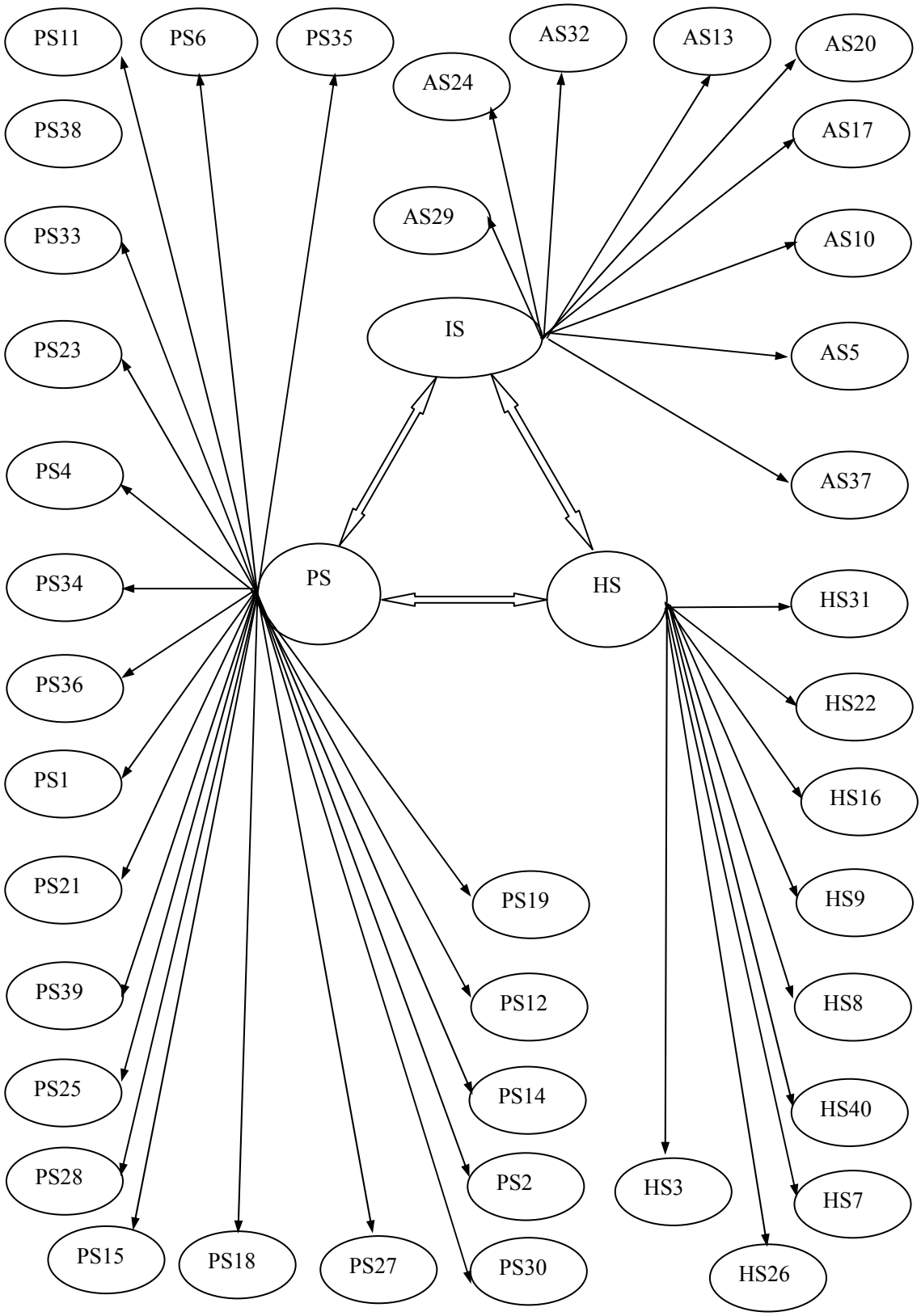

Figure1 Path chart of complicated TABP

The Second extracting factor is PS which contains 22 items: 35, 6, 11, 38, 33, 23, 4, 34, 36, 1, 21, 39, 25, 28, 15, 18, 27, 30, 2, 14, 12, and 19. This indicates that the diver has inherent sense of urgency for running of time, pursuing a high speed and efficiency, inherent sense of responsibility is strong and impetuous.

The third extracting factor is HS, which contains 9 items: 31, 22, 16, 9, 8, 40, 7, 26 and 3. It indicates that the driver is not tolerant, always feels discontented, and is not gregarious that is means he or she cannot get along well with others.

Assessment of Type A Complicated Behavior Pattern

Table 2 shows that the fitting indices such as GFI、AGFI etc. are close to 0.90,RMSEA<0.05,it can be judged that the model fitted well.

Table 2 Reliability indices of Type A complex behavior pattern

Fitting index	*x2/df*	*GFI*	*AGFI*	*NFI*	*TLI*	*CFI*	*RMSEA (90% confidence interval)*
Number	2.49	0.892	0.864	0.825	0.819	0.827	0.039(0.029-0.042)

Based on initial model, the path chart of complicated TABP can be drafted as Figure 1.

Internal Consistency Coefficient Reliability Test of Type A Complex Behavior Pattern Scale

After analyzing the above factors, three dimensions are available, those are IS, PS and HS. At first, form the internal consistency coefficient reliability test of the Type A complicated behavior pattern scale (PSACIV evaluation scale), and its relevant relationship is shown in Table 3.The lowest is HS, α=0.673, the highest is PS, α=0.851, the internal consistency of the whole scale reach 0.785. It identifies that there is a higher positive correlation among various variables in the three *subscales*.

Table 3 Internal consistency coefficient of PSACIV subscales

Subscale	*α*	*T test***
IS	0.834	4.39
PS	0.851	3.75
HS	0.673	5.64
The questionnaire	0.785	3.97
Note:** marked p < 0.01		

Test of Type A Complicated Behavior Pattern Scale

(1) Content validity test

This study cited TABP theory when preparing the questionnaire. The questionnaire is also directed by Professor Miao Danmin at The Fourth Military Medical University, which proves meets the actual situation of TABP after the testing. According to the suggestion from experts and communicate with analysis the result of exploratory factors, it classifies the factors and guarantees the validity of the contents of the questionnaire to a certain extent.

(2) Structure validity test

According to Confirmatory Factor Analysis and view from various fitting degree of the model, the quality three first-order factors model of type A complicated behavior pattern is better. And the total fitting degree of model is also performance well, thus, the construct validity of the questionnaire is relatively ideal. Additionally, according to the theory of factor analysis, there should be a middle level relevant among factors.

First of all, the correlation between subscales and general-scales or among the subscales was checked. The results are shown in Table 4. There is a significant positive correlation between IS and PS（all of them are related in 0.01 remarkable level）. But the correlation coefficient among IS, PS and HS is low. Obviously, these two kinds of Type A behavior have no correlation relationship with HS. Although there is no direct correlation between IS and HSor between PS and HS, all the three are important components of the Type A behavior measurement questionnaire, which is consistent with the overall concept.

Table 4 Internal relationship of Tape A complicated behavior pattern scale

Subscale	*AS*	*PS*	*HS*	*General-Scale*
AS	1			
PS	0.652**	1		
HS	0.234**	0.312**	1	
General-Scale	0.778**	0.734**	0.634**	1

Note:** marked $p < 0.01$。

According to above study it can be known that Type A complicated behavior pattern scale is composed by three dimensions: IS、PS and HS. Which conforms to the theoretical structure of the original scale, and has a good reliability and validity to meet the requirements of psychological surveying and it can be applied in studying the relevance between TABP and aggressive driving behavior.

Correlation Analysis between TABP and Aggressive Driving Behaviour

Type A Behavior Pattern is a personality variable which has been attracting much attention in recent years, but the study result cannot certify the relationship between TABP and aggressive driving behavior, and there is no consistent conclusion that TABP can have effect on which kinds of aggressive driving behaviors.

The newest research on the relationship between TABP and aggressive driving behavior was carried by professor Zhuang Mingke etc. in Peking University in 2008. They used two-dimension TABP scale（Zhang Boyuan,1983）, four-dimension driver behavior questionnaire（Reason,1990） and sensation seeking questionnaire(Wang,2000）to discuss the relationship between influence factor and road traffic accident caused by Chinese drivers' risk driving behavior. The research result revealed that people with Type A personality are prone to have an aggressive behavior and divers who are seeking for the sense of speed are easy to have risk driving behavior. On the aspect of relationship between attitude and aggressive behavior, the possibility of aggressive behavior are directly related to the risk tend of attitude. And from the aspect of relationship between driving skill and driving behavior the drivers with a good driving skill and safe driving habit seldom have risk driving behavior, but drivers who have an excellent driving skill and can finish advanced action are more easily to have risk driving behavior(ZHUANG et al,2008). Compared to the former study, the innovation in

this study adopted many kinds of scales to research risk driving behavior. The evaluation, however, is based on the study of two-dimension scale in 1983 and the object of discussion is risk driving behavior rather than aggressive driving behavior. Thus the directions of various aggressive driving are unclear. We cannot understand how TABP works on aggressive driving behavior in different directions. In order to further clarify the relationship between 3-D TABP and the five-dimensional aggressive driving behavior, this research uses the above measuring tool to inspect relationship between IS (1)、PS (2) and HS(3) of TABP and the factors of aggressive driving behaviors such as Disregarding Other People (DOP) (5), Occupying Driving Space (ODS) (6), Fast Advance (FA) (7), Obtaining Leading (OL) (8), Interpersonal Attack (IA) (9).

The data are shown in Table 5 and Table 6 by Correlation Analysis.

Table 5 Correlativity between inventories of TABP and aggressive driving behavior

	1	*2*	*3*	*4*	*5*
1.AS	1				
2.PS	0.652**	1			
3.HS	0.234**	0.312**	1		
4. Tape A behavior Pattern	0.778**	0.734**	0.634**	1	
5.Aggressive Driving Behavior	0.536	0. 686	0.514**	.572**	1

Note:** marked $p < 0.01$.

According to the relevant analysis, there is a significant positive correlation between TABP and aggressive driving behavior（r=0.572,P<0.01）, which indicates that the more remarkable TABP for driver, the higher the aggressive driving behavior in the report.

Table 6 Dimension relationship between TABP and aggressive driving behavior

	AS	*PS*	*HS*
1.	1		
2.	0.652**	1	
3.	0.234**	0.312**	1
4.	0.778**	0.734**	0.634**
5.	0.245**	0.129**	0.292**
6.	0.350**	0.241**	0.251**
7.	0.185*	0.532**	0.041*
8.	0.121*	0.344**	0.026*
9.	0.174**	0.17**	0.359**

Note:* marked $p < 0.05$,** marked $p < 0.01$.

It is discovered that relationship between IS（1） and aggressive driving behavior are not all achieved 0.01 remarkable level completely. IS（1）,FA（7） and OL（8） achieved 0.05 remarkable levels. Viewing from correlation coefficient's size, correlation coefficient between IS and ODS is the highest (r=0.35). The second is IS and DOP（r=0.245）.The authors also discovered that relations between PS (2) and the aggressive driving behavior are all achieved 0.01 remarkable levels. As for correlation coefficient's size, correlation coefficient between PS and FA (r=. 532) is obviously higher than PS and disregards other people (r=0.129). Moreover, the second highest correlation coefficient is OL. Equally, the relationship between HS and aggressive driving behavior has not satisfied 0.01 remarkable levels completely. HS (3)

and FA (7), HS (3) and OL (8) achieve 0.05 remarkable levels. The correlation coefficient between HS and IA is the highest (r=0.359) and obviously higher than others. The next one is that between HS and DOP (r=. 026).

CONCLUSIONS

This paper discusses Type A complicated behavior pattern inventory (PSACIV behavior evaluation inventory), Factor structure and load of Type A complex behavior pattern questionnaire. After analyzing the above factors, three dimensions are available, those are IS, PS and HS. The research result revealed that people with Type A personality are prone to have an aggressive behavior and divers who are seeking for sense are easy to have risk driving behavior.

Drivers with TABP are mainly have the following characteristics:（1）feel anxious frequently and pursuing efficiency.（2）confident but impatient, emotion various obviously.（3） strong enterprise and desires to win, egocentric, hostile and want to surmount others. The most remarkable feature of TABP driver is living convenience to themselves. They often express their hardy demeanor with dangerous lane changes or even unreasonable revenging vehicles which surpass them. In some extreme situation, such as finding the vehicle behind want to overtake, the driver not only refuses to give way but also speeds down or up in order to impede other's reasonable overtaking.

Through Correlation Analysis and amount of quantitative research the authors found that the relations between TABP and aggressive driving behavior are both interrelated and unique. For irritable TABP driver, there is a strong relationship among disregarding others, occupying driving space and Interpersonal Attack（0.01 remarkable level）.For impatient TABP driver, the strong relationship is among disregarding others, occupying driving space, fast advance, obtaining leading and Interpersonal Attack（0.01 remarkable level）. For hostile TABP driver, there is a strong relationship among disregarding other people, occupying driving space, and Interpersonal Attack（0.01 remarkable level）is also obvious. In the crowded driving environment, affected by environment factors, IS and PS will lead to slight increase of aggressive driving behavior. The driving attacks with hostile revenge also may upgrade the aggressive driving behavior and even cause road violent crime.

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