International Journal of Educational Planning & Administration.
ISSN 2249-3093 Volume 12, Number 1 (2022), pp. 21-34

http://www.ripublication.com

Influencing Factors of College Express Packaging Recycling Behavior-Taking Jiangsu University as an Example

Huihui Shen

Financial department, Jiangsu University,
Zhenjiang 212013, China.

Abstract

College students account for a large proportion of online shopping consumers. Low express packaging recycling rates have a serious impact on the environment and are not unfriendly to the development of a green economy.Therefore, it is very necessary to recycle express packaging in colleges. Based on this, the article analyzed status and influencing factors of express packaging recycling behavior of students through questionnaire survey and interview taking Jiangsu University as an example.First of all, according to the face-to-face conversation with the staff of the express site, we found that massive express package were delivered to the campus every day, which will produce a lot of solid waste.Secondly, Chi-square test method is used for analysis of influencing factors of express packaging recycling in colleges and universities.Finally, based on the analysis of influencing factors of express packaging recycling behavior, several recommendations were put forward.

Keywords:colleges; express packaging; recycling; behavior;influencing factors

1 INTRODUCTION

Nowadays, with the rapid development of electronic commerce industry, more and more consumers choose to shop online, which eventually leads to a sharp increase in packaging waste. The development of express delivery industry not only brings convenience to people's daily shopping, but also produces a large number of express packaging waste which aggravates the pollution problem of packaging waste. These

materials will produce solid waste and cause serious pollution. Express packaging waste causes environmental problems.

Therefore,the recycling of express packaging is extremely important and worth encouraging. This paper analyzes the influencing factors of express packaging recycling behavior of college students, taking Jiangsu University as an example,which is located in Zhenjiang city, Jiangsu Province, a famous historical and cultural city in China,and a key comprehensive university with about 40,000 students. There are five express sites distributed on the campus of Jiangsu University,4 in the student living area and 1 in the teaching staff living area. According to the author's field interview with the staff of the express sites, it is estimated that there are roughly ten thousand express packages were delivered to the campus of Jiangsu University every day. As a highly intellectual group, behavior of college students in managing these express packaging can set a good example for other people. At the same time, as an important city organization and department, colleges and universities have the responsibility and obligation to take needed actions in express packaging recycling, and should become advocates and leaders of express packaging recycling, and set an example for other departments.

2 LITERATURE REVIEW

2.1 Research status of recycling behavior

Guerin, Crete and Mercier (2001) analyzed the influence on recycling behavior by comparing the situation of various EU countries, and pointed out that in addition to the national participation of all members being the most obvious influencing factor, individual circumstances and social institutions can also influence the recycling behavior.Paula and Elizabeth (2012) discussed how to stimulate and improve recycling participation rate through market segmentation, pointing out that the first step to improve recycling channels is to investigate residents' recycling behavior, attitude and motivation.Wang Jianming (2007) analyzed the difference of recycling behavior in different demographic characteristics through empirical research, in other words, demographic characteristics have a significant difference in the impact of recycling behavior, and obtained the overall situation of recycling behavior of urban residents.

2.2 Research status of express packaging recycling

DiMaio&Rem (2015) believes that the secondary development of express packaging waste and the recycling effective resources as much as possible is conducive for promoting the establishment of circular economy.Aslanishvili (2016) emphasized the positive impact of green and scientific processing modet on the country's overall economy.J. Lin (2017) pointed out that by using the advantage of the network, students can submit their discarded packaging information, and then related enterprises designated staff to recycle.Wang Yansong et al. (2018), based on the analysis of the situation and causes of traditional packaging recycling mode, proposed

a new attempt to improve the recovery rate of express packaging by combining unmanned recycling station, express delivery station and wechat platform.Shan Linting et al. (2018) took The North Campus of Shenyang University as an example and using analytic hierarchy process (AHP) to find the appropriate recycling mode to improve the recycling utilization rate of express packaging.Zhang Wenjing (2019) proposed that the most effective way to solve the problem of GCASS express packaging waste is to build a express packaging recycling system on campus, advocate the concept of green packaging for college students, and manage the waste from the source[9].

3 RESEARCH DESIGN

3.1 Sample selection and data sources

The research object of this paper is college students. In January 2022, the author designed a questionnaire to explore the influencing factors of express packaging recycling behavior in Colleges. After continuous revision, the questionnaire was issued and the data were collected from February 17 to February 28, 2022.There are 18 questions in the questionnaire. The first part is personal information, there are four questions, including gender, profession and consumption level. The second part of the questionnaire is related to the current situation of express packaging recycling of college students, which contains two questions. The third part of the questionnaire is related to the influencing factors of college students' express packaging recycling behavior, including 12 questions, such as the respondents' attitude, willingness and mastery of relevant knowledge on express packaging recycling.

3.2 Model construction

This study used two forms of face-to-face interception survey and online questionnaire investigators intercepted respondents face-to-face in restaurants, dormitories, playgrounds and other places. A total of 1,600 questionnaires were distributed and 1,335 valid questionnaires were recovered. At the same time, Online questionnaires were sent to students via WeChat, of which there are 334 valid questionnaires. Therefore, a total of 1669 valid questionnaires were recovered in this study. Participants in the survey were selected by random sampling, thus ensuring the diversity of samples.Model construction

Chi-square test is a widely used hypothesis testing method for count data. It belongs to the category of nonparametric test, mainly comparing two or more sample rates and the correlation analysis of two classification variables. The fundamental purpose is to compare the goodness of fit between theoretical frequency and actual frequency. Chi-square test is a common hypothesis test method based on $\chi 2$ distribution. The null hypothesis H0 is that there is no difference between the observed frequency and the expected frequency.

The Pearson chi square test was first proposed by the British statistician Karl Pearson

in 1900. Its calculation formula is:

$$\chi^2 = \sum \frac{(A-E)^2}{E} = \sum_{i=1}^{k} \frac{(A_i - E_i)^2}{E_i} = \sum_{i=1}^{k} \frac{(A_i - np_i)^2}{np_i} \quad (i=1,2,3,\ldots,k) \qquad (1)$$

Ai is the observation frequency of i level, Ei is the expected frequency of i level, n is the total frequency, Pi is the expected frequency of i level. The expected frequency Ei of i level is equal to the expected probability pi of the total frequency n×i level, k is the number of cells. When n is relatively large, $\chi 2$ statistic approximately follows the chi-square distribution of k-1 (the number of parameters used to calculate Ei) degrees of freedom.

This paper believes that if the P value is less than 0.01, it is believed that the attitude, willingness and other factors of the respondents are correlated with the express packaging recycling behavior.Based on Chi-square test, this paper uses SPSS2.0 software to calculate and analyze the influencing factors of college express packaging recycling behavior.

4 EMPIRICAL RESULT ANALYSIS

4.1 Descriptive statistics of the sample

In the survey sample, boys accounted for 58.42%, girls accounted for 41.58%; undergraduate students accounted for 78.73%, postgraduate students accounted for 21.27%. The basic characteristics of the population of the survey sample are close to the basic structure of Jiangsu college students. In terms of majors, 29.47% of the respondents were enrolled in liberal arts majors, and students majoring in science and engineering accounted for 70.53%. College students whose monthly consumption level is less than 800 RMB account for 2.4%, college students whose monthly consumption level is 800 RMB to 1500 RMB account for 50.27%, college students whose monthly consumption level is 1500 RMB to 2500 RMB account for 42.24%, and college students whose monthly consumption level is more than 2500 RMB account for 5.09%.

Table1: Descriptive statistics

Questions	Options	Number of couriers	Percentage (% N=1669)
Gender	male	694	41.6
	female	975	58.4
Diploma	undergraduate	1314	78.7
	postgraduate	355	21.3
Monthly consumption	between 800CNY	40	2.4
	800—1500CNY	839	50.3
	1500—2500CNY	705	42.2
	more than 2500 CNY	85	5.1

4.2 The current situation of express packaging recycling on campus

According to the research results, among the 1669 respondents, 5 received less than once a month, 999 received 1-5 times a month (59.86 %), 485 received 6-10 times a month (29.06 %), 180 received more than 10 times a month (see table 2).

Table 2: Number of couriers received by college students per month

How many times do you receive express packages per month??	Number of couriers	Percentage (%, N =1669)
none	5	0.30
1-5times	999	59.86
6-10times	485	29.06
more than 10 times	180	10.78

According to table 3 70.7 % of respondents discarded express packaging directly after receiving express delivery, 25.4 % of respondents sometimes recovered, and only 3.89 % of respondents had the habit of recycling express packaging. It can be seen that a large amount of express packaging waste is generated on campus every day, which will cause damage to the environment and cause serious waste of resources.

Table 3: Recycling behavior of express packaging for college students

Will you recycle after receiving the express?	Number of couriers	Percentage (%, N=1669)
Throw it directly in the trash	1180	70.70
Sometimes	424	25.40
Always	65	3.89

4.3 Factor analysis

4.3.1 Internal Factor

(1)Attitude:To explore whether the attitude of college students towards express packaging recycling affects their recycling behavior, this study asked respondents whether they agree with the relevant statements about express packaging recycling (as shown in Table 4). If the respondents choose to agree, it means that they have a positive attitude towards express packaging recycling.

Table 4: Attitude and express packaging recycling behavior

Attitude	Express packaging recycling behaviour				Total	P-value:
		Always	Sometimes	Throw in trash		
A. Express packaging recycling can improve our living environment.						
Agree	Observation count	55	409	1015	1479	Pearson test: 0.00
	Theoretical count	57.6	375.7	1045.7	1479.0	
	% of columns	84.6%	96.5%	86.0%	88.6%	
Disagree	Observation count	5	5	40	50	
	Theoretical count	1.9	12.7	35.4	50.0	
	% of columns	7.7%	1.2%	3.4%	3.0%	
Not sure	Observation count	5	10	125	140	
	Theoretical count	5.5	35.6	99.0	140.0	
	% of columns	7.7%	2.4%	10.6%	8.4%	
B. Universities should play an exemplary role in express packaging recycling.						
Agree	Observation count	55	404	995	1454	Fisher test: 0.00
	Theoretical count	56.6	369.4	1028.0	1454.0	
	% of columns	84.6%	95.3%	84.3%	87.1%	
Disagree	Observation count	5	0	45	50	
	Theoretical count	1.9	12.7	35.4	50.0	
	% of columns	7.7%	0.0%	3.8%	3.0%	
Not sure	Observation count	5	20	140	165	
	Theoretical count	6.4	41.9	116.7	165.0	
	% of columns	7.7%	4.7%	11.9%	9.9%	
C. Express packaging recycling can save resources and protect the environment.						
Agree	Observation count	65	414	1070	1549	Fisher test: 0.00
	Theoretical count	60.3	393.5	1095.2	1549.0	
	% of columns	100.0%	97.6%	90.7%	92.8%	
Disagree	Observation count	0	0	15	15	
	Theoretical count	0.6	3.8	10.6	15.0	
	% of columns	0.0%	0.0%	1.3%	0.9%	
Not sure	Observation count	0	10	95	105	
	Theoretical count	4.1	26.7	74.2	105.0	
	% of columns	0.0%	2.4%	8.1%	6.3%	

Note. Fisher's exact test is required if the theoretical value less than 5 exceeds 20%.

Table 4 shows that 88.6 % of college students in Jiangsu University agree that express packaging recycling can improve people ' s living environment, 87.1 % of college students agree that colleges and universities should play a model leading role in express packaging recycling, and 92.8 % of college students agree that express packaging recycling is conducive to saving resources packaging recycling. It can be seen from Table 4 that the chi-square test results show that Jiangsu University students ' attitude towards express packaging recycling is closely related to their express packaging recycling behavior ($p < 0.01$). Those who hold a positive attitude towards express packaging recycling are more inclined to participate in express

packaging recycling.

(2) ***Willingness:***In order to explore whether express packaging recycling intention will have an impact on college students ' express packaging recycling behavior, this study interviewed respondents in different situations, as shown in table 5. If respondents choose the ' agree ' option, it shows that they have strong willingness to recycle express packaging.

Table 5: Willingness and express packaging recycling behavior

Willingness	Express packaging recycling behavior				Total	P-value:
		Always	Sometimes	Throw it in trash		
A. I am willing to participate in express packaging recycling.						
Agree	Observation count	60	394	915	1369	Pearson test: 0.00
	Theoretical count	53.3	347.8	967.9	1369.0	
	% of columns	92.3%	92.9%	77.5%	82.0%	
Disagree	Observation count	0	0	35	35	
	Theoretical count	1.4	8.9	24.7	35.0	
	% of columns	0.0%	0.0%	3.0%	2.1%	
Not sure	Observation count	5	30	230	265	
	Theoretical count	10.3	67.3	187.4	265.0	
	% of columns	7.7%	7.1%	19.5%	15.9%	
B. Even if I 'm in a hurry, I would like to spare time for express packaging recycling.						
Agree	Observation count	45	254	525	824	Pearson test: 0.00
	Theoretical count	32.1	209.3	582.6	824.0	
	% of columns	69.2%	59.9%	44.5%	49.4%	
Disagree	Observation count	15	5	140	160	
	Theoretical count	6.2	40.6	113.1	160.0	
	% of columns	23.1%	1.2%	11.9%	9.6%	
Not sure	Observation count	5	165	515	685	
	Theoretical count	26.7	174.0	484.3	685.0	
	% of columns	7.7%	38.9%	43.6%	41.0%	
C. In order to carry out the express packaging recovery, I am willing to take more distance.						
Agree	Observation count	25	234	595	854	Pearson test: 0.00
	Theoretical count	33.3	217.0	603.8	854.0	
	% of columns	38.5%	55.2%	50.4%	51.2%	
Disagree	Observation count	15	20	170	205	
	Theoretical count	8.0	52.1	144.9	205.0	
	% of columns	23.1%	4.7%	14.4%	12.3%	
Not sure	Observation count	25	170	415	610	
	Theoretical count	23.8	155.0	431.3	610.0	
	% of columns	38.5%	40.1%	35.2%	36.5%	

Table 5 shows that 82 % of college students are willing to participate in express packaging recycling. However, when they realize that they must pay some cost or effort to complete the express packaging recycling (such as walking a distance or taking some time), their willingness to recycle will decline significantly. Only 49.4 % of college students are willing to take some time for express packaging recycling. 51.2 % of college students would like to take a long distance to recycle express packaging. The chi-square test results show that there is a significant statistical correlation between he willingness of college students to recycle express packaging and their express packaging recycling behavior ($p < 0.01$). The stronger the willingness of college students to recycle express packaging, the higher the participation of express packaging recycling.

(3) Related knowledge:In order to evaluate the familiarity of college students in Jiangsu University with the related knowledge of express packaging recycling, this study asked them about their understanding of the related knowledge of packaging recycling, and tested the relationship between the familiarity of related knowledge and their behavior of express packaging recycling, as shown in Table 6.

Table 6 : Related knowledge and express packaging recycling behavior

Knowledge		Express packaging recycling behaviour			Total	P-value:
		Always	Sometimes	Throw it in trash		
A. Do you know which express packaging is recyclable						
Familiar	Observation count	30	125	240	395	Pearson test: 0.00
	Theoretical count	15.4	100.3	279.3	395.0	
	% of columns	46.2%	29.5%	20.3%	23.7%	
A little	Observation count	20	114	465	599	
	Theoretical count	23.3	152.2	423.5	599.0	
	% of columns	30.8%	26.9%	39.4%	35.9%	
Do not know	Observation count	15	185	475	675	
	Theoretical count	26.3	171.5	477.2	675.0	
	% of columns	23.1%	43.6%	40.3%	40.4%	

It can be seen from Table 6 that only 23.7 % of college students are familiar with the express packaging recycling knowledge of Jiangsu University. This shows that Jiangsu University students' mastery of relevant knowledge is very weak. However, the chi-square test results still show that there is a significant statistical relationship between college students ' familiarity with packaging recycling knowledge and their express packaging recycling behavior ($p < 0.01$). The more the respondents mastered the packaging recycling-related knowledge, the higher their participation in express packaging recycling was. This shows the importance of improving people' s knowledge on packaging recycling for the betterment of recycling behavior . Therefore, the local government and universities need to make more efforts to promote and publicize the concept and related knowledge of express packaging

recycling, to improve the packaging recycling consciousness of college students, and promote college students to participate in express packaging recycling.

4.3.2 *External Factor*

(1)Infrastructure:In order to analyze whether the convenience of express packaging recycling infrastructure affects college students ' express packaging recycling behavior, this study asked whether respondents agreed with the following two statements (as shown in table7).

Table 7: Infrastructure and express packaging recycling behavior

Infrastructure	Express packaging recycling behaviour				Total	P-value:
		Always	Sometimes	Throw it in trash		
A. If the express packaging recycling point is near to my dormitory, classroom, canteen and other places, and obvious ,I will participate in.						
Agree	Observation count	65	414	1020	1499	Pearson test: 0.00
	Theoretical count	58.4	380.8	1059.8	1499.0	
	% of columns	100.0%	97.6%	86.4%	89.8%	
Disagree	Observation count	0	0	5	5	
	Theoretical count	0.2	1.3	3.5	5.0	
	% of columns	0.0%	0.0%	0.4%	0.3%	
Not sure	Observation count	0	10	155	165	
	Theoretical count	6.4	41.9	116.7	165.0	
	% of columns	0.0%	2.4%	13.1%	9.9%	
B. If the express packaging design is nove,I will participate in.						
Agree	Observation count	65	384	945	1394	Pearson test: 0.00
	Theoretical count	54.3	354.1	985.6	1394.0	
	% of columns	100.0%	90.6%	80.1%	83.5%	
Disagree	Observation count	0	5	20	25	
	Theoretical count	1.0	6.4	17.7	25.0	
	% of columns	0.0%	1.2%	1.7%	1.5%	
Not sure	Observation count	0	35	215	250	
	Theoretical count	9.7	63.5	176.8	250.0	
	% of columns	0.0%	8.3%	18.2%	15.0%	

Table 7 shows that, If the express packaging recycling point is near to my dormitory, classroom, canteen and other places, and obvious,89.8 % of college students will

participate in express packaging recycling. If the express packaging design is novel, 83.5% of students will participate in express packaging recycling .Chi-square test results show that the convenience of express packaging recycling infrastructure has a significant impact on college students ' express packaging recycling behavior ($p < 0.01$). The more convenient the express packaging recycling infrastructure is, the higher the participation of college students in express packaging recycling is. Thus, improving express packaging recycling infrastructure can improve people ' s participation in express packaging recycling.

(2)Reward and punishment measures:In order to explore the influence of reward and punishment measures on college students ' express packaging recycling behavior, this study asked whether respondents would carry out express packaging recycling behavior under different reward and punishment measures, as shown in Table 8.

Table 8: Reward and punishment measures and express packaging recycling behavior

Reward and punishment		Express packaging recycling behaviour			Total	P-value:
		Always	Sometimes	Throw it in trash		
A. If there will be rewards for express packaging recycling, will you do express packaging recycling?						
Yes	Observation count	55	359	855	1269	Pearson test: 0.00
	Theoretical count	49.4	322.4	897.2	1269.0	
	% of columns	84.6%	84.7%	72.5%	76.0%	
No	Observation count	0	5	60	65	
	Theoretical count	2.5	16.5	46.0	65.0	
	% of columns	0.0%	1.2%	5.1%	3.9%	
Not sure	Observation count	10	60	265	335	
	Theoretical count	13.0	85.1	236.8	335.0	
	% of columns	15.4%	14.2%	22.5%	20.1%	
B.If not recycling express packaging will be punished, will you do express packaging recycling? ?						
Yes	Observation count	35	264	545	844	Pearson test: 0.00
	Theoretical count	32.9	214.4	596.7	844.0	
	% of columns	53.8%	62.3%	46.2%	50.6%	
No	Observation count	15	40	165	220	
	Theoretical count	8.6	55.9	155.5	220.0	
	% of columns	23.1%	9.4%	14.0%	13.2%	
Not sure	Observation count	15	120	470	605	
	Theoretical count	23.6	153.7	427.7	605.0	
	% of columns	23.1%	28.3%	39.8%	36.2%	

Table8 shows that 76 % of respondents will choose to participate in express packaging recycling if they receive rewards, while only 50.6 % of respondents will participate in express packaging recycling if they will be punished for not recycling. The results of chi-square test showed that there was a significant statistical correlation between reward and punishment measures and college students ' express packaging recycling behavior ($p < 0.01$). College students ' sensitivity to punishment measures is lower than that of reward measures. Obviously, incentive is more important than punishment for college students ' express packaging recycling behavior. Therefore, the government and universities must be rigorous in implementing the reward and punishment measures for express packaging recycling, because excessive action may make people hopeless.

5 RESEARCH FINDINGS AND RECOMMENDATIONS

5.1 Main results

The results show that the main factors affecting the express packaging recycling behavior of college students are attitude to express packaging recycling, express packaging recycling willingness, related knowledge, infrastructure convenience, reward and punishment measures. Although the participation rate of express packaging recycling of college students is still low, it will play a positive role by improving the convenience of express packaging recycling infrastructure on campus, strengthening the publicity and education of packaging recycling related knowledge, and implementing effective reward and punishment system.

5.2 Recommendations

5.2.1 Formulated laws and regulations

The regulations and policies related to express packaging and express industry are very scarce in China. Therefore, improve the 'express packaging supplies national standards' and other normative documents to form a unified standard in the logistics express industry, so that enterprises can reasonably select and use express packaging, and minimize the use of non-degradable materials. It is necessary to strengthen supervision and management of the express delivery and packaging industry and improve the binding force of relevant industries and subjects. In addition, universities should also formulate relevant policies to regulate the behavior of college students' express packaging recycling.

5.2.2 Establish a recycling system

In order to effectively apply the express packaging recycling mode, express packaging manufacturers should pay attention to the aesthetic design and practical design to attract consumers to recycle them. Print recyclable labels on packaging to remind consumers to recycle them. As well, the express packaging mode of shared express

box can be adopted, which is a square plastic box with the function of disassembly and folding, and can effectively reduce the storage space. On the other hand, the establishment and improvement of infrastructure construction in line with the express packaging recycling behavior will improve the convenience of college students ' participation in express packaging recycling activities. Colleges and express enterprises should set up express packaging recycling points in the densely populated area of the campus or near the express delivery point, such as downstairs of each apartment building, express points, canteens, teaching buildings, etc..

5.2.3 Propaganda environmental knowledge

The propaganda of environmental protection in colleges and universities and the whole society needs to be strengthened to improve consumer awareness of environmental protection. Through news websites, WeChat public accounts, radio broadcasts, periodicals, buses, taxis or public service billboards at subway stations and other channels, the propaganda of environmental logistics and green recycling concept for the whole society can be carried out to encourage consumers to actively participate in the recycling activities of express packaging. In addition, colleges and universities can set up relevant community activities, organize relevant volunteer activities and campus environmental protection creative competitions. These activities can enhance students' environmental awareness and environmental protection concept of express packaging recycling.

5.2.4 Appropriate incentive mechanism

The government and universities can also increase relevant incentive mechanisms to encourage college students to actively participate in express packaging recycling activities, while expanding public participation in express packaging recycling activities through multiple channels and methods. College students can get corresponding points every time they participate in express packaging recycling activities. The number of points is linked to the quantity and quality of the express packaging they recycle. When the value of the points reaches a certain level, the express packaging recycling site can reward college students, such as: Express delivery incentives, small gifts, offline consumption coupons, etc. While college students receive material rewards, their enthusiasm for participating in activities can also be improved.

6 CONCLUSION

According to the discussion and findings, this article believes that improving environmental awareness and green packaging are important measures to realize circular economy. Nowadays, with the increasing of express delivery, how to improve the recovery rate of express packaging in Colleges has become a challenge for the development of green economy and the construction of modern logistics system. We

should not only rely on the policy support of government and colleges and the publicity of green environmental protection, but also promote the transformation of the development of express enterprises and embark on a path of green development. In addition, we should pay more attention to technology research and degradable and low consumption packaging materials, so as to lay a foundation for energy saving and emission reduction and promote the development of carbon economy.

REFERENCES

[1] Chen Jian, et al."Influence of ecological cognition on consumers' willingness to participate in beverage packaging recycling." Resources, Conservation & Recycling Advances 14.(2022). doi:10.1016/J.RCRADV.2022.200070.

[2] Rahamat Syafiqah, et al."Menu labeling influence on purchase behaviors: Applying the theory of planned behavior and health consciousness." Appetite .prepublish(2022). doi:10.1016/J.APPET.2022.105967.

[3] Ling, Li, Anping, Ran."Proposal of a hybrid decision-making framework for the prioritization of express packaging recycling patterns." Environment, Development and Sustainability prepublish(2022).

doi:10.1007/S10668-022-02145-5.

[4] Resnitzky Maria Helena Costa, et al."INNOVATION PROJECTS OF PACKAGING RECYCLING TO A CIRCULAR ECONOMY." Sustainable Operations and Computers .prepublish(2021).

doi:10.1016/J.SUSOC.2021.05.005.

[5] Noh Mijeong."Understanding the Effect of Information Sources on College Students' Recycling/Reuse Behavior towards Clothing and Textile Products." Sustainability 13.11(2021). doi:10.3390/SU13116298.

[6] Kong Fanrong,and Lu Hongxia."Research on Online Shopping Packaging Recycling Strategy under Big Data Environment." Journal of Physics: Conference Series 1883.1(2021). doi:10.1088/1742-6596/1883/1/012153.

[7] Guo Yanlu, Luo Gongli."Research on the Evolution of the Express Packaging Recycling Strategy, Considering Government Subsidies and Synergy Benefits." International Journal of Environmental Research and Public Health 18.3(2021). doi:10.3390/IJERPH18031144.

[8] Lixin Wang."Based on the Optimization Strategy of Transportation Route in College Students' Clothing Donation and Recycling—A Case Study of Rizhao University Town." Advances in Applied Mathematics 09.05(2020).

doi:10.12677/aam.2020.95073.

[9] Wenjing Zhang."The Situation with College Express Packaging Waste and

Recycling Recommendations—Taking the Graduate School of the Chinese Academy of Social Sciences as an Example." Journal of Resources and Ecology 10.5(2019).

doi:10.5814/j.issn.1674-764x.2019.05.009.

[10] Moonhee Cho."Campus sustainability: An integrated model of college students' recycling behavior on campus." International Journal of Sustainability in Higher Education 20.6(2019). doi:10.1108/IJSHE-06-2018-0107.

[11] Yujie Gou. Research on the influence of community social capital on urban residents' garbage classification behavior.2019.Lanzhou University,MA thesis. https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD201902&filena me=101987593 2.nh

[12] Han, ,and Hyun."College youth travelers' eco-purchase behavior and recycling activity while traveling: an examination of gender difference." Journal of Travel & Tourism Marketing 35.6(2018).

doi:10.1080/10548408.2017.1405865.

[13] Marieke T. Brouwer, et al."Predictive model for the Dutch post-consumer plastic packaging recycling system and implications for the circular economy." Waste Management 71.(2018). doi:10.1016/j.wasman.2017.10.034.

[14] Kimberly Klaiman, et al."Perceived barriers to food packaging recycling: Evidence from a choice experiment of US consumers." Food Control 73.(2017). doi:10.1016/j.foodcont.2016.08.017.

[15] Julia A. Flagg and Diane C. Bates."Recyclingas a result of 'cultural greening'." International Journal of Sustainability in Higher Education 17.4(2016). doi:10.1108/IJSHE-02-2015-0021.

[16] Jeannette M. García."Catalyst: Design Challenges for the Future of Plastics Recycling." Chem 1.6(2016).

doi:10.1016/j.chempr.2016.11.003.

[17] You Ying Wang,Bu Qing Ma."Influential Factors of College Students' Mobile Phone Recycling Behaviors." Advanced Materials Research 3326.989-994(2014). doi:10.4028/www.scientific.net/AMR.989-994.5258.