loop supply chain should consider not only product life cycle and recycling, but also economic and environmental benefits. It has become the focus of scholars all over the world. Closed loop supply chain refers to the complete supply chain cycle from procurement to final sales, including product recovery and reverse logistics supported by life cycle. It is a highly complex process. In the closed-loop supply chain, the simplest form is composed of manufacturers, retailers and recyclers. Recycler is the most critical link in the new closed-loop supply chain system, which is not available in the traditional supply chain. Therefore, this paper mainly studies the change of recyclers when exogenous variables fluctuate from the perspective of economic psychology.

**Research Objects and Methods:** Most scholars use short-term static methods when studying the uncertainty of recyclers in closed-loop supply chain. It is particularly important to analyze the uncertain factors in the closed-loop supply chain. In order to analyze this problem, this paper first improves the closed-loop supply chain model of capital flow and logistics coupling, so as to better simulate the real closed-loop supply chain. Secondly, the sensitivity analysis function of Vensim software is used to simulate the impact of exogenous variables on the inventory value and capital value of recyclers in the closed-loop supply chain model. At the same time, in order to verify the impact of recyclers' emotional stability, this study adopts the following scale. The communication anxiety scale adopts 15 questions of the Interaction Anxiety Scale (IAS) compiled by Leary, with a single dimension and a 5-level score, from 1 to 5 to “very inconsistent”. The higher the score, the greater the degree of social anxiety. The emotion regulation self-efficacy scale adopts the emotion regulation self-efficacy scale (RES) revised by Caprara. The 12 questions are divided into three dimensions: expressing positive emotions, managing depression / pain and self-efficacy of managing anger / anger, with 4 questions in each dimension. A 5-level score is adopted, from 1 to 5, which means “very inconsistent” to “very consistent”. The higher the score, the higher the degree of self-confidence in regulating their emotions. In the study, Cronbach’s α The coefficient is 0.80. The aggression scale adopts the aggression scale (bpaq) compiled by Buss and Perry.

The scale has 29 questions and is divided into four dimensions: physical aggression, verbal aggression, anger and hostility. The higher the score, the stronger the attack. In this study, Cronbach’s α The coefficient is 0.85. The depression questionnaire adopts Beck’s revised depression Inventory-II (BDI-II). The questionnaire has 21 questions, with a single dimension. The higher the total score, the heavier the degree of depression. The data were obtained by spss19.0 and amos17.0 for analysis.

**Results:** The 19 exogenous variables were divided into four categories: Manufacturer related parameters, retailer related parameters, recycler related parameters and other related parameters. The sensitivity of these 19 parameters to recycler inventory and capital in closed-loop supply chain is simulated and analyzed. Through the comparative analysis of sensitivity chart, it can be seen that the manufacturer's inventory adjustment time, the retailer's safety inventory coefficient, the retailer's smoothing time, the retailer's inventory adjustment time, the collector's fixed expenditure and the collector's initial inventory value are positively correlated. And have a significant impact on collectors' inventory and emotional stability. The reason is that appropriate time adjustment helps to reduce work pressure and naturally improve job satisfaction.

**Conclusion:** in the closed-loop supply chain, the fluctuation of the same exogenous variable in the same range has a more significant impact on the recycler's inventory than on the recycler's capital. For recyclers, the decline of inventory value has a positive impact on the capital of recyclers, while the decline of capital value has a negative impact on the capital of recyclers. The impact of retailer order smoothing time on recycler inventory and capital is uncertain. Therefore, recyclers should strengthen fund management, establish insurance mechanism and prepare reserves to prevent the impact of external variable fluctuations on recyclers' funds. At the same time, in view of the uncertainty caused by exogenous variables related to manufacturers and retailers on recyclers' funds and inventory, recyclers need to deal with it through information sharing, compensation mechanism, incentive and other ways.

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**STUDY ON THE INFLUENCE OF INTRODUCTION COURSE ON FRESHMEN'S COLLEGE LIFE ADAPTATION AND EMOTIONAL REGULATION**

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**Background:** Freshman adaptation has always been one of the important topics in academic research. The purpose of this study is to explore the impact of introductory courses on Freshmen's college adaptation and the related aspects of emotion regulation.

**Subjects and Methods:** 404 freshmen in a university in Zhejiang Province were investigated by using the psychological survey based on Student Adaptability Scale (saqc) and the survey method of introduction course quality. The anxiety scale designed by Kim was used as the measurement scale, and the scale was evaluated by Likert scoring method. Pearson correlation, standard deviation and statistical significance are combined to illustrate the correlation. T-test of independent samples was used to verify the difference between high anxiety group and low anxiety group. 397 copies have been returned, of which 384 are valid. SPSS 22.0 and Amos 21.0 were used for statistical analysis. In addition, according to the statistical value of anxiety, Adelmann (1989) regarded the emotional function as a whole according to Hochschild's definition of emotional function, and compiled a one-dimensional emotional labor scale composed of five items, with low internal consistency coefficient. The scale compiled by brotheridge and Lee (1998) is divided into two dimensions: surface play and deep play, which is composed of six items. Surface acting projects, in your daily work, you inhibit the frequency of expressing real emotions every day. Deep acting projects, how often you try to experience the emotions you have to express. The emotional labor scale compiled by brotheridge (2002) consists of 40 items. Through confirmatory factor analysis, the items with low factor load were deleted, and the scale used in the formal test was composed of 15 items. The scale includes six dimensions; The frequency, intensity, diversity, continuity of communication, surface play and deep play of emotional performance.

**Results:** “The quality of introduction course” and “research and academic atmosphere” jointly explained the difference of “overall university adaptation” of 61% of freshmen, among which the quality of introduction course had the greatest impact. The most powerful predictor of Freshmen's academic adaptation is the quality of introductory courses (β = 0.48). Academic research atmosphere has the greatest impact on interpersonal adaptation (β = 0.36). The biggest impact on psychological adjustment is the teaching quality of introductory courses (β = 0.26), followed by academic research atmosphere...
Academic research atmosphere has the greatest impact on life adaptation ($\beta = 0.21$). The most influential factor on life adaptation is the academic research atmosphere ($\beta = 0.21$). Generally speaking, freshmen have a higher degree of adaptation to interpersonal relationships and campus life, a lower degree of adaptation to psychological adjustment, and the lowest degree of adaptation to university learning. In addition, the study also found that the adaptation problems of college students are mainly anxiety, and anxiety is negatively correlated with achievement. Similarly, there is a significant negative correlation between anxiety and self-efficacy. State anxiety, trait anxiety and learning anxiety are all positively correlated. The “anxiety” component of personality characteristics plays a great role in the generation of anxiety. The correlation coefficient between LCAS and trait anxiety was 0.408, while the correlation coefficient between LCAS and state anxiety was 0.395. Both reached a significant level ($P < 0.01$).

There was a positive correlation between self-efficacy and achievement. Research shows that anxiety, gender and self-efficacy can be used as comprehensive variables to measure academic achievement.

**Conclusion:** The following conclusions are drawn: (1) Universities should pay attention to improving the quality of introduction course and creating a good academic research environment, because it directly affects the freshmen's University adaptability. Freshmen's college adaptation is not just the responsibility of counselors and logistics personnel. Although these tasks are also important, their impact on Freshmen's university adaptation is far less than that of direct academic courses. (2) In order to better adapt to university study and adjust their mentality, universities should pay attention to improving the quality of introductory courses. At the same time, in order to promote freshmen to better adapt to interpersonal relationships and life, universities should pay attention to creating a good academic research atmosphere. (3) We should pay attention to the college adaptation and psychological adaptation of freshmen, the learning adaptation of Engineering freshmen, and the interpersonal adaptation of Engineering freshmen and boys. In short, we should give full play to the important influence of Discipline Distribution on students' adaptability, actively pay attention to the changes of their psychology, emotion and behavior, and their impact on positive and active behavior, and strive to become the builder, manager, coordinator and collaborator of the environment. According to the psychological characteristics of this part of the group, flexibly organize rich activities, strive to build a relaxed and harmonious living atmosphere, create a friendly and mutual aid relationship, encourage and guide this part of the group, adjust their psychology to the best state, and promote their good cognition and healthy development of life.

**RESEARCH ON THE REGULATION OF MULTI-AGENT'S EMOTION BASED ON MULTI-AGENT'S HETEROGENEOUS GAME PREFERENCE AND BILATERAL PARTNER'S PREFERENCE**

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**Background:** The development of virtual enterprise is inseparable from the support of partners. Due to information asymmetry, the choice of virtual enterprise partners is blind, and simple matching formula is difficult to meet. At the same time, the psychology of the matching subject is based on the maximization of its own interests rather than the maximization of collective interests. There are interest contradictions and conflicts between subjects, and they may eventually fall into a “prisoner’s dilemma”. Therefore, how to carry out the research on emotion regulation based on multi-agent heterogeneous game preference and bilateral partner preference is very important.

**Research Objects and Methods:** Aiming at the contradictions and interest conflicts between subjects in the process of virtual enterprise partner matching, combined with the basic characteristics of subject language preference evaluation, the game idea is introduced into the process of virtual enterprise partner bilateral matching analysis, a bilateral matching game model of heterogeneous multi-attribute preference and subjects' psychological behavior is proposed, and the influence of the changes of subjects' psychological behavior on the evolution law of bilateral matching game system is analyzed. The Nash equilibrium strategy of bilateral matching is discussed. In order to verify the impact of the algorithm on emotion, this study uses relevant scales to investigate. (1) Positive emotion scale. The Panas emotion scale developed by Watson et al. is widely used to measure emotion. The scale includes two dimensions: positive emotion and negative emotion. There are 6 questions in this dimension, and Likert scores 5 points (1 means “very inconsistent”, 5 means “very consistent”, the same below). The Cronbach coefficient of this questionnaire is 0.90. (2) Motivation. The problem of measuring motivation is mainly the motivation scale compiled by Phan, which has 8 questions and is scored with Likert 5 points. (3) Social support scale. The scale is adapted from the social support scale compiled by Ye Yuemei et al. It has 8 questions, using Likert's five point scoring method. Cronbach $\alpha$ the coefficient of the scale is 0.87. (4) Behavioral propensity scale. Propensity dimension in intention measurement. The scale has 6 questions, and Likert scores 5 points. The Cronbach coefficient of the scale is 0.95.

**Results:** The results of case analysis show that the model can make full use of the multi-attribute preference information of heterogeneous subjects, describe the mechanism of psychological behavior affecting the evolution of game system, and help virtual enterprises match business partners; This has important value and significance for the establishment of virtual enterprises and their industrial agglomeration effect. In the influence process of cooperative anxiety, emotional response plays an intermediary role, psychological elasticity plays a regulatory role, and emotional response to life events plays an intermediary role. That is, the higher the psychological elasticity, the higher the excessive coping style of the game, and vice versa.

**Conclusion:** Various stable matching solutions can be obtained by solving the model, and the conclusion is more suitable for the matching decision-making process of both parties in the actual process, which makes the model can be applied to various scenarios, such as the selection of battery suppliers of new energy vehicles and smart phone screen suppliers, which has greater practical value and significance. It should be pointed out that there are some deficiencies in the setting conditions of the model method, mainly because some individuals in the group cooperate to form an alliance, so as to form a community of interests. In the process of game, the individual experience in the group is constrained by more conditions, which makes the results of the model deviate.

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