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The toxic gift: reciprocity and social capital in cigarette exchange in China

Xiaozhao Y. Yang [a], Michael C. Vuolo[b] and Dan Wu [c]

[a]Department of Sociology and Social Work, Sun Yat-sen University, Guangzhou, China; [b]Department of Sociology, The Ohio State University, Columbus, OH, USA; [c]School of Psychology/Center for Mental Health, Shenzhen University, Shenzhen, China

ABSTRACT

The widespread exchange of tobacco cigarettes as a gift in some societies normalises the symbolic desirability of tobacco products and promotes smoking. Little is known about how and why people exchange toxic substances as gifts. This study argues two key factors involved in social exchange processes – reciprocity and social capital – can explain gift cigarette circulation. We conducted a multistage survey among household heads from China and measured the quantity and monetary values of outgoing and incoming gift cigarettes circulated by each household and measured social capital in three dimensions: collective participation, social ties, and trust. Ordinary Least Square regressions showed that reciprocity is strongly and significantly associated with both the value and quantity of gift cigarettes. All three dimensions of social capital are varyingly associated with gifting cigarettes. Income and higher classes are also associated with greater quantity and value of received cigarettes. This study broadens the phenomenon of gifting cigarettes to the more universal patterns of reciprocity and social capital, wherein better social capital and socioeconomic position ironically lead to a higher risk of tobacco use and endanger health. We suggest policymakers target the endemic social need for gift exchange in China's informal economy.

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Introduction

As with substance use generally, smoking is heavily influenced by the social and cultural mechanisms that give meaning to smoking. The extant scholarship has largely discussed the phenomenon of gift exchange involving addictive substances by situating the action in a cultural paradigm. The exchange of gift cigarettes in some cultures reflects a collective participation in an underlying integration process, wherein cigarettes are the manifested form of the symbolic unification of a common cultural identity (Becker, 1953; Collins, 2014; Nichter, 2015). By exchanging and consuming tobacco, or other addictive substances, members partaking the collective rite develop solidarity and acknowledge each other as trustworthy in-group members.

CONTACT Dan Wu wudan.tracy@szu.edu.cn School of Psychology/Center for Mental Health, Shenzhen University, Shenzhen, CN 518000, China

In discussions of the interpersonal exchange of gift cigarettes, the Chinese case is often upheld as a primary example of this phenomenon. The drug history of China has shown that the Chinese shared pipe tobacco as early as tobacco's introduction in the seventeenth century, along with the custom of gifting and sharing opium (Benedict, 2011; Dikötter et al., 2002; Zheng, 2005). Today, tobacco companies, from international corporations to local Chinese state-owned enterprises, strategically use culturally tailored messages to brand their products as symbolically valued gifts (Chu et al., 2011). The Han Chinese people often exchange tobacco to facilitate friendship, to consolidate kinship during family gatherings, to bribe superiors or other resource gatekeepers. Rich and Xiao's studies found the widespread practice of sending tobacco cigarettes as a gift or bribery in China (Rich et al., 2014). Huang and colleagues reported that 3.5% of their respondents had received gift cigarettes, and smokers receive gift cigarettes five times a year on average (Huang et al., 2012). This gifting of cigarettes is taking place within the contexts of a much wider smoking epidemic in China, where various studies show that 41–63% of men and 4% of women are current smokers (Barnett et al., 2021; Yang, 2020). Beyond China, people in other societies too are found to circulate and exchange tobacco. Tobacco is among the most popular gifts exchanged by Native Americans and offered to important people during ceremonies (Nadeau et al., 2012). Nichter found American college students regularly share and give cigarettes to friends as a smoking ritual that facilitates a sense of belonging (Nichter, 2015). Tobacco cigarettes also functioned as a social currency and gift in Russia, especially among the intelligentsia (Romaniello & Starks, 2009).

Gifting helps introduce individuals to smoking and elevates the perceived value of smoking. By and large, many important factors behind the social causes of substance use emphasise the role of peers in providing both the opportunity and material to use substances like tobacco (Giordano, 2003; Kelly & Vuolo, 2019; Kelly et al., 2017; Vuolo & Matias, 2020; Warr, 2002; Yang et al., 2014; Yang & Yang, 2017). In other words, in social settings among peers, sharing and gifting of substances is very common as a source of acquisition. While tobacco control can denormalise smoking and result in behavioural shifts in smoking (Bayer & Stuber, 2005; Kelly et al., 2018; Stuber et al., 2008), phenomena such as gifting cigarettes could hamper such shifts in attitudes and prevent improvements in population health.

Cigarette exchange is fundamentally a socially oriented action by involving at least two actors along a bidirectional social relation. In this article, we examine the reciprocal exchange of gift cigarettes among a Chinese sample in tandem with social capital theory to highlight the social use of cigarettes beyond their direct consumption. We found most studies on the subject have adopted a cultural explanation and are qualitative in nature. Meanwhile, there are few studies empirically tested the social mechanisms, rather than cultural rationales, in cigarette exchange.

The social mechanisms in gifting cigarettes

Gift cigarettes have gained popularity and permeated many domains in the Chinese social world. The prevailing explanatory framework on the gift cigarette phenomenon in China has adopted a cultural approach, in which the symbolic meaning and background cultural/religious context were emphasised. For example, scholars have discussed

the transition of the positively perceived value of cigarettes from being a symbol of fine taste to a symbol of authority and power, and how these differently perceived values facilitate the daily exchange and sharing of cigarettes in China (Benedict, 2011; Rich et al., 2014). Yan (1993) described villagers in Chinese Manchuria offered cigarettes to exhibit positive emotions during various rituals. The cultural approach also engendered studies on how people resort to culturally sanctioned beliefs to justify their social use of cigarettes (Jackson et al., 2004; Yang et al., 2014). Invigorated by a primarily anthropological vein of research, the understanding of the cultural rationale behind gifting cigarettes in China has relatively matured.

However, we found fewer studies on the sociological mechanisms behind gifting cigarettes, particularly how various forms of concrete and measurable social relations are associated with the practice. This gap is especially shocking because the exchange of cigarettes is fundamentally a socially oriented action that always transpires between two or more individuals who form a basic interactional unit. No matter what cultural justification or belief system the exchange was conducted with, gifting cigarettes involves two parties and a relationship, or, in the lingua of social network analysis – two vertices and an edge. Yan has argued, while exchanging gift cigarettes demonstrates the cultural relevance of a context, the exchange itself happens between ties in a social network (*guanxi*) and abides with the principle of reciprocity (Yan, 1993; Yan, 1996). Therefore, beyond the cultural meanings of gifting cigarettes, which have been meticulously documented in many qualitative studies, there is a compelling need to investigate the social mechanisms in gifting cigarettes. To achieve this goal, the current study brings together three key social aspects of gift cigarette exchange: reciprocity, social capital, and socioeconomic status.

Reciprocity

Reciprocity is a fundamental feature in social exchange. Gifting as a form of social exchange has long been a focal theme among sociologists, who regard gifts, in contrast to market-based commodities, as the quintessential form of social exchange that consolidates actors from different social groups and fosters solidarity between previously unallied groups. As Mauss stated in the classic work *The Gift*, 'the bond established between donor and recipient is too strong for both of them, the recipient puts himself in a position of dependence vis-à-vis the donor' (Mauss, 2002). When a market-based transaction is finished, a commodity is alienated from its original owner via transfer to a new owner; but an exchanged gift brings in a debt-like collateralised relational obligation to the new owner (Kranton, 1996). For those who use substances, there is often an implicit assumption that reciprocation of gifting and sharing will occur later (Murphy et al., 2018). Sharing and giving cigarettes creates an emotional bond and requires feedback from the recipients, and the solidarity between two parties strengthens as a consequence (Carrier, 1991; Collins, 2014; Dolfsma et al., 2009).

All interactions in social exchange are reciprocal in principle (Collins, 2014; Homans, 1958; Kranton, 1996). While reciprocity is directly observed in market commodity exchanges, it is also a prominent feature in the gift exchange. A gifter of cigarettes will receive cigarettes from the recipient, often at a later point; a gifter may also receive cigarettes from multiple other actors and give out to multiple recipients, but the general exchange maintains reciprocity. When the gifter and recipient exchange an equal

quantity of cigarettes as measured by value, we may call it total reciprocity, which expresses as the equation: *purchased* + *received* = *consumed* + *sent*. We propose the first hypothesis – the reciprocity of gift cigarettes, and argue that the level of sending gift cigarettes is driven primarily by the need to reciprocate received gift cigarettes:

> H1: the quantity and value of sent gift cigarettes are positively associated with the quantity and value of received gift cigarettes, after accounting for the consumption of cigarettes.

Social capital

Social capital refers to the sum of resources and mobilising capacity enabled by one's possession of relational ties with other social actors (Lin, 2002; Son, 2020). This notion can trace its intellectual development back to two traditions: social capital as a collective property of voluntary associations, represented by Robert Putnam (2001); or, social capital as a set of structured relations that facilitate social exchanges, presented by James Coleman (1988). The individual-level social capital further manifests in different forms, including regularised expectation and trust, participation in collective activities, and social ties. Today scholars define social capital as the embedded resource in one's relational or affective connection with other people and institutions (Lochner et al., 1999; Peng et al., 2019). Exchanging goods and information generates a greater quantity of social capital for the parties involved in the circulation by building and strengthening their mutual relational ties. Conventional view of social capital focuses on the salubrious effect it generates for health, but more recent scholarship has noticed the 'dark side' of social capital (Peng et al., 2019; Villalonga-Olives & Kawachi, 2017), which produces social costs in addition to its benefits(Song et al., 2021). In this case, social capital may facilitate the exchange of cigarettes and encourage tobacco use.

Unlike the commodity exchange, reciprocity in a gift exchange is often deferred and transformed into social capital (Camerer, 1988; Carrier, 1991). The recipient of cigarettes may delay payback, but the payback is still expected in the manner of doing a favour for the giver, creating relational bonds, or crediting with honor. Additionally, if the payback and the original gift differ in perceived value, there will be a difference unaccounted for by direct reciprocity that needs to be balanced by: either anticipation of future payback, or a perceived status difference that symbolically transfers social capital to the party with inferior status. In this scenario, a relational residual emerges in the expectation of a counter-gift and the party that provided excessive value in the gift exchange will gain social status and prestige; alternatively, this residual may be paid off by social capital (Camerer, 1988; Mauss, 2002). For example, a recipient who received four cartons of gift cigarettes and returned with another two cartons now owes the gifter, but using their social capital to do the gifter a favour can balance the equation. To illustrate the scenario when absolute reciprocity does not hold in real life, we introduce the variable utility of social capital to the original reciprocity equation, the equation in gifting cigarettes works out as: *purchased* + *received* = *consumed* + *sent* + *capital*.

The social root and socialisation motivation of smoking, therefore, leads us to include social capital into the perspective of cigarette exchanges. As people exchange gift cigarettes, they tacitly trade social capital. The circulation of gifts reproduces social relations that facilitate solidarity between actors and generates social capital (Carrier, 1991; Dolfsma et al., 2009). Gift cigarettes serve the function of creating more social capital

for the gifters, and strengthen the tie between the parties if the recipients reciprocate the favour. Cigarette gifters in China use tobacco to establish with the recipient a trust relationship, emotional attachment, or symbolic compliance. In fact, enriching themselves with social capital and social ties is the principal purpose of sending gift cigarettes and sharing cigarettes among the Chinese (Ding & Hovell, 2011).

Therefore, we propose the following hypotheses on social capital and gift cigarettes:

H2a: after accounting for reciprocity in the exchange of gift cigarettes, social capital is positively associated with the quantity and value of received gift cigarettes.

H2b: after accounting for reciprocity, social capital is positively associated with the quantity and value of sent gift cigarettes.

Socioeconomic status

Socioeconomic status is often empirically related to social capital, but, instead of relational ties, it refers to an individual's possession of concrete goods and class standing. Research demonstrates that the generic use of cigarettes, whether being consumed or exchanged, provides socioeconomic benefits to Chinese smokers. Yang and Hendley's (Yang, 2020; Yang & Hendley, 2018) analysis of nationwide representative data revealed that non-smokers in China were penalised in their workplace and suffer downward mobility. Barnett et al. argue that the unique challenge of tobacco control in China comes from powerful groups and institutions (Barnett et al., 2021), because smoking tends to be associated with higher income level and class in China, a stark contrast to Western countries (Auld, 2005; Henkel, 2011; Yang et al., 2008; Yang, 2017). The smoking premium can be explained by smokers' possession of more resources and their monopoly on the opportunity to socialise in important spheres dominated by other smokers. Likewise, non-smokers can also gain a foothold in the workplace by circulating gift cigarettes in return for socioeconomic resources.

Due to the reciprocity of social exchange, recipients of gift cigarettes are obliged to return some levels of resources to the gifters. Those who possess a higher socioeconomic status may receive a greater quantity of gifts from people who anticipate a return of opportunities and resources. In contrast, people with a lower socioeconomic status may receive fewer gifts and are less sought after due to their relative shortage of available resources. The socioeconomic gradient in smoking in China leads to the third hypothesis on social status and receiving gift cigarettes:

H3: after accounting for reciprocity, higher socioeconomic status (i.e. income and occupational class) is associated positively with the quantity and value of received gift cigarettes.

Methods

Study design

The sample for this study comes from the heads of household through recruitment of parents of Chinese university students between 30 April and 30 July in 2020. This study utilised a multistage sampling design. In Stage 1, one university each from Guangdong and Shaanxi province was selected based on their regional diversity and existing research collaboration. Guangdong is a southeastern coastal province with a population

of 115.21 million and $13,651 per capita GDP, whereas Shaanxi is a northwestern inland province with 38.76 million people and $9661 per capita GDP. In Stage 2, the sampling strategy involved the selection of classes within two universities. All classes that had health professional courses were selected in each university. In Stage 3, the students enrolled in those classes were invited to collect data with their parents. In Stage 4, eligible students were instructed to distribute the survey questionnaires in Chinese to parents. This student–parent survey targeted self-identified heads of household in the families whose residency in the past 12 months remained in the local province.

The survey contains a parent-survey ($n = 1995$) and a student-survey ($n = 1013$), and this study utilises only the parent-survey for their precise knowledge of household consumption pattern.[1] Parents were surveyed for their actual knowledge of the household consumption pattern. A total of 1240 parents were recruited in Guangdong and 755 parents were recruited in Shaanxi. We also retained 97 cases that were collected from initial pilot testing. Missing data were listwise deleted. The potential responding bias introduced by the division of survey by student status is accommodated with propensity scores (see below for analytical strategy). The study protocol was approved by the Ethics Committee of Guangdong Medical University, and written consent was obtained from all participants prior to the administration of the questionnaire.

Measurement

We investigated both the count and monetary value of received and sent cigarettes. The survey asked, 'how many cartons of cigarettes have you sent out to other people in the last year', and 'how many cartons of cigarettes have you received from other people in the last year'. The quantities are divided by 12 to get the monthly average. For monetary value, the survey asked for the two most common 'brands and prices of cigarettes that you received/sent'. We then calculated the monthly value of received and sent cigarettes by multiplying the mean pack prices by gift cigarette quantities.

Previous studies argued that social capital is multidimensional (Jackson, 2020; Peng et al., 2019), so we measured it in three conceptually distinct dimensions. Coleman (1988) emphasised the expectation and trust in a society as one aspect of social capital, Putnam (2001) focused on voluntary participation in collective activities, whereas Lin's social capital originates from ties to important others (Lin, 2002). Trust and expectation exist in a society to enable reliable social exchanges, they are the cognitive aspect of social capital. Trust in a community is measured with five-points Likert scale items: 'generally, I trust most people around me', 'I feel warmth in the organization I am closely affiliated with', 'I feel people around me are always fighting against my interests', and 'most people around me will lend a hand when I need help'. Options for these items were 'very much disagree', 'disagree', 'more or less agree', 'agree', 'agree very much'.

Participation in collective activities is the scaled monthly frequency of 'meeting with others for food and drink', 'meeting with others for entertainment', 'volunteering for public causes', and 'going to leisure activity organised by your local work unit or commune'. The response options were: never, once every few months, once a month, 2–3 times per month, 4 or more times per month. Finally, a scale measured ties to important others by the number of 'close friends', 'people with whom you can collaborate for work', 'neighbors that can look after your belongings', and 'relatives who often care for

and visit you'. The options for these scales include nobody, 1–2 people, 3–4 people, 5–6 people, 7 and more.

We controlled for the following sociodemographic variables: sampled province (Guangdong vs. Shaanxi), gender, marital status, educational attainment, occupation groups (manager/owner, white-collar, blue-collar, service class, irregular employment), household size, and annual family income. We controlled for self-reported health, measured by five Likert-scale ranging from 'poor' to 'excellent'. Mental stress is also measured by five-point Likert scales. In particular, stress items recorded responses on: 'feeling lost control of important things in life', 'feeling confident to solve my issues', 'feeling things are going my way', 'feeling issues are piling up unsolved'. Smoking status and the daily number of cigarettes may directly motivate gift cigarette habits, on which the survey asked 'do you smoke currently' and 'how many packs of cigarettes did you smoke every month, if you smoked at all'. We combined occasional smokers with daily smokers to form a dichotomous indicator for smoking status and used the self-reported number of the pack of cigarettes for smoking intensity.

Statistical analysis

For descriptive purposes, chi-square tests and t-tests were conducted to determine differences in both offering and receiving gift cigarettes across basic demographic groups and smoking status. We then employed Ordinary Least Square (OLS) regression to analyze both receiving and giving gift cigarettes. The quantity and monetary values of received and sent gift cigarettes were regressed on smoking status, social capital, socioeconomic status, corresponded reciprocity, and demographic control variables. We rely on standardised coefficients to determine the relative strength of the predictors.

As described earlier, dividing the survey by parents and students may introduce responding bias to representativeness and merit statistical treatment to offset their influence. We adjusted for the participation bias among household heads with a propensity score calculated as the likelihood of responding as a student (y_i): $w = \frac{1}{p(y_i = 1|X_i\beta)}$. Incorporating propensity score covariate allows the model to reach a balance in average effect and correct the possible bias introduced by oversampling (Austin, 2011). We created this propensity score using as predictors self-reported health, income, stress, gender, response time, family size, sibling number, trust, participation, and communal ties. Stata 16 was the main statistical analysis tool.

Results

Table 1 presents the Pearson chi-square test results for the differences in sending and receiving gift cigarettes by categorical variables, along with the distribution of categorical variables. Since we intended to administer the survey to the heads of the household, more males (81.9%) than females were featured in the sample. About 10.9% and 4.8% of female household heads have sent and received gift cigarettes, compared to 28.6% and 23.6% of males, respectively. Unmarried people were more likely to exchange gift cigarettes (sent: 27.0%; received: 21.5%) than currently married (sent: 14.0%; received: 10.9%) heads of household. Compared to all other occupation classes, the manager/owner class had the

Table 1. Pearson Chi-square test of associations between gifting cigarettes and categorical variables.

		Sent gift cigarettes				Received gift cigarettes			
	N (%)	Yes	No	χ^2	*p*	Yes	No	χ^2	*p*
Gender				51.18	.000			67.77	.000
Female	377 (18.0%)	10.9%	80.1%			4.8%	95.2%		
Male	1714 (82.0%)	28.6%	71.4%			23.6%	76.4%		
Province									
Guangdong	1224 (58.5%)	18.2%	81.8%	80.22	.000	15.8%	84.2%	34.39	.000
Shaanxi	867 (41.5)	35.5%	64.5%			26.3%	73.7%		
Marital status				20.4	.000			15.69	.000
Married	1834 (87.7%)	27.0%	73.0%			21.5%	78.5%		
Unmarried	257 (12.3%)	14.0%	86.0%			10.9%	89.1%		
Occupation				22.21	.000			33.49	.000
Manager/Owner	61 (2.9%)	47.5%	52.4%			41.0%	59.0%		
White-collar	421 (20.1%)	24.0%	76.0%			21.4%	78.6%		
Blue-collar	843 (40.3%)	30.0%	70.3%			19.8%	80.2%		
Service class	327 (15.6%)	29.7%	70.3%			24.8%	75.2%		
Irregular employed	439 (21.0%)	22.1%	77.9%			13.4%	86.6%		
Smoking status				237.3	.000			348.2	.000
Smoker	877 (41.9%)	42.7%	57.4%			39.5%	60.6%		
Non smoker	1214 (58.1%)	12.9%	87.1%			6.3%	93.7%		

*$p < .05$, **$p < .01$, ***$p < .001$ for Chi-square probability ! = 0.

largest share of its members engaging in sending (47.5%) and receiving (41.0%) gift cigarettes. Intriguingly, a sizable portion of non-smokers also had sent (12.9%) and received (6.3%) gift cigarettes. Chi-square tests indicate that there are significant inter-category differences in all categorical variables.

For continuous variables, Table 2 found that higher income, less stress, greater trust, more communal ties, more participation in collective activities, and larger family size were significantly associated with sending and receiving gift cigarettes. Not surprisingly, being a smoker, smoking more cigarettes, and reciprocal exchange in gift cigarettes were significantly associated with sending and receiving gift cigarettes with very large effect sizes. The propensity of answering as a student is also significantly associated with *not* exchanging gift cigarettes.

Table 2. Student *t*-test of associations between gifting cigarettes and continuous variables.

	Sent gift cigarettes			Received gift cigarettes		
	Mean (S.D.)		*p*	Mean (S.D.)		*p*
	Yes	No		Yes	No	
Age	46.76 (8.61)	47.27 (10.17)	.306	47.03 (8.91)	47.17 (10.01)	.791
Income level	3.01 (2.20)	2.81 (1.87)	.047	3.27 (2.31)	2.76 (1.85)	.000
Self-reported health	2.36 (.83)	2.32 (.86)	.401	2.25 (.82)	2.33 (.86)	.629
Education level	2.73 (1.36)	2.70 (1.30)	.602	2.81 (1.39)	2.69 (1.29)	.072
Stress	3.25 (.82)	3.34 (.71)	.000	3.71 (1.08)	3.96 (.91)	.000
Trust	3.43 (.60)	3.27 (.52)	.000	3.41 (.58)	3.29 (.54)	.001
Ties	3.46 (.83)	3.25 (.89)	.000	3.51 (.86)	3.25 (.89)	.000
Participation	2.49 (.95)	2.21 (.83)	.000	2.57 (.99)	2.22 (.82)	.000
Family size	4.84 (1.70)	4.57 (1.46)	.000	5.05 (1.77)	4.53 (1.44)	.000
Propensity of responding as student	.89 (.99)	1.52 (1.16)	.000	.83 (1.00)	1.49 (1.15)	.000
Pack of smoked cigarettes	11.79 (12.84)	4.63 (9.99)	.000	14.41 (14.06)	4.44 (9.38)	.000
Pack of sent cigarettes	–	–		.56 (1.14)	.07 (.40)	.000
Pack of received cigarettes	.38 (1.22)	.03 (.26)	.000	–	–	
Value of sent cigarettes	–	–		40.86 (413.4)	2.74 (26.65)	.000
Value of received cigarettes	11.25 (41.03)	1.82 (32.44)	.000	–	–	

*$p < .05$, **$p < .01$, ***$p < .001$ for H(alternative): diff ! = 0.

Table 3 displays the standardised OLS regression results for the quantity and value of sent (outgoing) gift cigarettes. We found significant and strong reciprocity and consumption pattern in sending gift cigarettes in Model 1. Packs of sent cigarettes is significantly associated with packs of received cigarettes ($\beta = .51$, $p < .001$): every standard deviation (SD) increase in incoming gift cigarette is associated with a half SD increase in outgoing gift cigarette, which corresponds to about 0.3 packs. After accounting for reciprocity, non-smoking status ($\beta = -.05$, $p < .05$) and pack of consumed cigarettes ($\beta = .07$, $p < .01$) are significantly associated with outgoing cigarettes, but the effect sizes are very small relative to reciprocity. About 30% of the variance in outgoing gift cigarettes can be explained by reciprocity and consumption alone. Model 2 adds the other covariates. Among the social capital measures, ties to important others ($\beta = .04$, $p < .05$) and participation in collective activities ($\beta = .09$, $p < .001$) are both significantly associated with more packs of sent cigarettes. When a person participates in one SD more collective activities and establishes one SD more ties, there is a .09 and .04 SD increase in sent packs of cigarettes, respectively.

As shown in Model 3, with a beta of .54 ($p < .001$), the monetary value of sent cigarettes is most strongly associated with the value of received cigarettes, overshadowing the effect of smoking status ($\beta = -.09$, $p < .001$). In Model 4, social capital measured as participation ($\beta = .03$, $p < .001$) and trust ($\beta = .04$, $p < .05$) are significantly associated with a higher value of sent cigarettes. A total of 38% of the variance can be explained by Model 4.

Table 4 shows analogous models for the dependent variables of packs and value of received (incoming) gift cigarettes. In Model 1, reciprocally sent cigarettes are

Table 3. OLS regression of outgoing gift cigarettes, with standardised coefficients (β) and p-values for each model.

	Pack of sent cigarettes				Value of sent cigarettes (log)			
	Model 1		Model 2		Model 3		Model 4	
	β	p	β	p	β	p	β	P
Pack of received cigarettes	.51***	.000	.49***	.000	–		–	
Value of received cigarettes (log)	–		–		.54***	.000	.49***	.000
Nonsmoker	−.05*	.040	−.04	.136	−.09***	.000	−.07**	.003
Pack of smoked cigarettes	.07**	.003	.07**	.007	.02	.373	.02	.483
Female			−.01	.637			−.01	.563
Married			.01	.812			.03	.141
Occupation (ref. = irregular employed)								
Owner/manager			.02	.283			.05**	.007
White collar			−.03	.266			.04	.144
Blue collar			−.07**	.008			−.05*	.041
Service			−.03	.162			−.00	.859
Age			−.02	.128			−.07***	.000
Income level			−.03	.255			−.01	.632
Education level			−.01	.928			−.00	.903
Family size			.00	.676			−.02	.326
Self-reported health			−.02	.496			.00	.985
Stress			−.00	.977			−.03	.173
Trust			.01	.641			.05*	.017
Ties			.04*	.037			.02	.258
Participation			.09***	.000			.09***	.000
Propensity of student response			−.07*	.027			−.09***	.000
R^2	.30		.32		.35		.38	

*$p < .05$, **$p < .01$, ***$p < .001$ for H(alternative): diff != 0.

Table 4. OLS regression of incoming gift cigarettes. Unstandardised coefficients with standard errors in bracket followed by standardised coefficient (β).

	Pack of received cigarettes				Value of received cigarettes (log)			
	Model 1		Model 2		Model 3		Model 4	
	β	P	β	P	β	P	β	P
Pack of sent cigarettes	.50***	.000	.48***	.000	–		–	
Value of sent cigarettes (log)	–		–		.49	.000	.45***	.000
Nonsmoker	.02	.324	.01	.555	−.12	.000	−.12***	.000
Pack of smoked cigarettes	.16***	.000	.15***	.000	.16	.000	.15***	.000
Female			−.02	.459			.00	.827
Married			−.01	.623			−.00	.939
Occupation (ref. = irregular employed)								
Owner/manager			.01	.575			.04*	.050
White collar			.08**	.002			.05*	.026
Blue collar			.04	.145			.03	.226
Service			.03	.235			.03	.118
Age			−.01	.748			.02	.278
Income level			.07**	.002			.08***	.000
Education level			−.04	.108			.00	.924
Family size			.10***	.000			.11***	.000
Self-reported health			.02	.474			.01	.696
Stress			−.03	.070			−.03	.153
Trust			−.01	.440			−.02	.243
Ties			.00	.905			.01	.632
Participation			.03	.194			.08***	.000
Propensity of student response			.08**	.004			.00	.988
R^2	.31		.33		.40		.43	

*$p < .05$, **$p < .01$, ***$p < .001$ for H(alternative): diff != 0.

significantly associated with received cigarettes and the effect size is quite substantial ($\beta = .50$, $p < .001$), as one SD increase in sent cigarettes leads to a half SD in packs of received cigarettes, which is about 0.33 packs. The packs of consumed cigarettes are also associated with received cigarettes, highlighting the affinity between consumption and gift acquisition ($\beta = .16$, $p < .001$). These predictors maintain their significance and a similar magnitude effect in Model 2 with the addition of the other covariates. In Model 2, social capital measures are not associated with the pack of received cigarettes. Having higher income ($\beta = .07$, $p < .01$) and being a white-collar compared to the irregularly employed ($\beta = .08$, $p < .01$) are associated with more packs of received cigarettes.

For the monetary value of received cigarettes in Model 3, reciprocity remains strong as every SD change in the pack of sent cigarettes is associated with a half SD in the pack of received cigarettes ($\beta = .45$, $p < .001$). Non-smokers receive a significantly lower value of cigarettes ($\beta = -.12$, $p < .001$); for smokers, one SD more pack of consumed cigarettes leads to .15 SD increase in received cigarettes ($\beta = .16$, $p < .001$), which corresponds to 0.1 packs. In Model 4, participation in collective activities ($\beta = .08$, $p < .001$), higher income ($\beta = .08$, $p < .001$), and higher occupational class (owner/manager, white-collar) are all associated with a greater total value of received cigarettes. A total of 43% of the variance in the received cigarette value can be explained.

Figure 1 summarises the standardised coefficients and 95% confidence intervals of all key variables proposed by the hypotheses. As in the tables, the visualised coefficients firmly corroborate H1 about reciprocity in gifting cigarettes: the inbound and outflow of gift cigarettes are closely related to each other. We can also find support from Figure 1 for H2a (received cigarettes) and H2b (sent cigarettes), although more so for

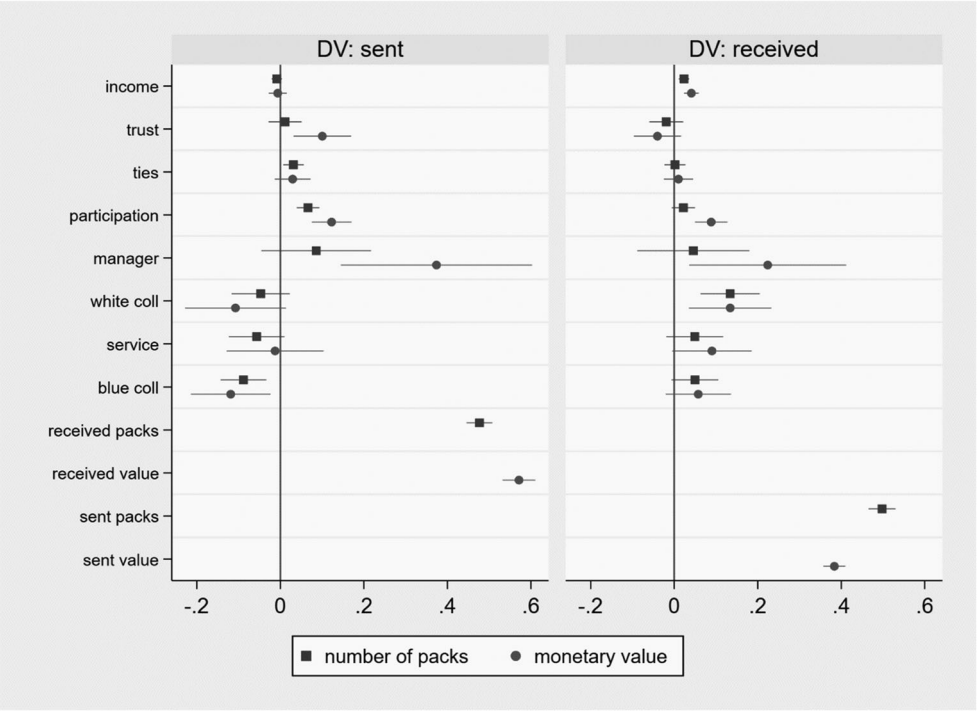

Figure 1. Standardised coefficients (beta) and 95% confidence intervals of the independent variables on two dependent variables (sent gift cigarettes and received gift cigarettes).

H2b. Figure 1 also shows that higher classes, compared to irregular employment, and higher income is associated with receiving more gift cigarettes, confirming H3.

Discussion

This study builds upon theories regarding the social exchange of gifts and investigates the phenomenon of circulating cigarettes as a gift. Previous studies have described the long-standing tradition of sending cigarettes among the Chinese who use this particular gift to establish connections, advance emotional bonds, or outright bribe (Chu et al., 2011; Ding & Hovell, 2011; Huang et al., 2012; Rich et al., 2014). Gift cigarettes may have considerable consequences for the health of the population that habitually practice gift cigarettes as many individuals have indeed initiated smoking with gift cigarettes (Ding & Hovell, 2011; Huang et al., 2012; Rich et al., 2014). This study is among the first to establish with quantitative empirical data that exchanging gift cigarettes is widely practiced among Chinese by smokers and non-smokers alike. Even 13% and 6.3% of non-smokers have given out or received gift cigarettes. This fact may help explain the endemic situation of tobacco use in China as the practices of tobacco exchange affect the general population beyond smokers themselves and may feature embedded social motives. As gift cigarettes have been established as a social currency accepted like credit and deferred payment in the Chinese society, non-smokers may normalise the use of tobacco and are at risk of joining their smoking counterparts. Researchers have

documented that the social exchange of tobacco is seen justified even among Chinese physicians (Barnett et al., 2017). On the other hand, the demographic subgroup least likely to partake in gifting cigarettes are females, featuring only 10.9% and 4.8% in sending and receiving gift cigarettes. This finding recommends that tobacco control policies target female household heads or female spouses as key agents who may slow or stop the flow of gift cigarettes exchange in China.

While those existing studies on this subject have employed a cultural paradigm that emphasised the symbolic meaning of gift cigarettes in the Chinese context, the current study completes the scholarship by demonstrating that gift cigarettes reflect several important social mechanisms that typically occur during social exchange. This study confirms that, firstly, gifting cigarettes exhibits a similar mechanism as seen in other types of social exchange: the obligation to reciprocate is expected, and sending gifts creates the expectation for returns (Carrier, 1991; Currie et al., 2013; Homans, 1958; Mauss, 2002). This study shows that reciprocity is highly evident in gifting cigarettes in China. Whether measured as quantity or value of the cigarettes, receiving gift cigarettes is strongly associated with sending gift cigarettes, and vice versa. Reciprocity maintains its effects even after controlling for the consumption of cigarettes and smoking status. In fact, a considerable portion of non-smokers are also involved in the interpersonal circulation of gift cigarettes, significantly contributing to the outbound direction of gifting.

Moreover, the current study shows that social capital plays a role in the exchange of gift cigarettes. When exchanging substances like tobacco, previous studies found that the actors are often motivated by a need to accumulate their social capital, display relative social status and economic prowess, or maintain a relationship (Kelly et al., 2013; Levene & Sireling, 1980; Nadeau et al., 2012; Nichter, 2015). Gift exchange, thus, engenders social capital (Carrier, 1991; Dolfsma et al., 2009). We found that social capital, as measured by participation in collective activities, is associated with a higher quantity and value of sent gift cigarettes, as well as a higher value of received gift cigarettes. Social capital measured by ties to important others is associated with a higher quantity of sent gift cigarettes. Social capital measured by trust is associated with a greater value of sent gift cigarettes. Overall, this study contributes to the literature by showing that, even after accounting for reciprocity and consumption, social capital is a significant risk factor in gifting cigarettes. This finding aligns with the scholarship on the dark side of social capital, suggesting that the pursuit of social capital as a relational resource may unintentionally facilitate at-risk behaviours or invite the use of addictive substances to build social capital (Peng et al., 2019; Portes, 1998; Villalonga-Olives & Kawachi, 2017).

Additionally, to accrue social capital and other resources, the gift flow goes from those with lower status to higher status. People with higher income and from the highest two occupational classes (manager/owner, white-collar) received a greater quantity and value of gift cigarettes. This particular finding coheres with the high-status stress hypothesis which argues, owing to job stress and normative expectation for risk-taking, some high-status professionals may develop worse health than lower-status individuals whose nature of daily tasks exempt them from these stressors(Schieman & Reid, 2009). Culturally, smoking is a normative behaviour among workers, and many use tobacco as a social lubricant to express a culturally mandated respect to the hierarchy.

Beyond the fact that those of higher class rank tend to smoke more in China (Yang, 2020), the non-smokers are even penalised with downward social mobility, allegedly for their lack of opportunity in socialisation with smokers (Yang & Hendley, 2018). Individuals with higher socioeconomic status tend to receive more gift cigarettes from aspirers who use the gift as a bid to connect and build solidarity.

This study demonstrated and emphasised the under-explored social mechanisms in gifting cigarettes. The need to reciprocate in social exchanges, conversion of gifts into social capital, and directed flow of gifts towards those of higher social statuses, are more generalised social mechanisms not bound to a specific culture. Although gift cigarettes are recorded mainly in Chinese societies (Benedict, 2011; Chu et al., 2011; Huang et al., 2012; Rich & Xiao, 2011), similar practices involving intentional actors exchanging tobacco or even illicit substances for purposes related to social mobility and building social ties have been widely observed in other cultures or subcultures (particularly club scenes) (Collins, 2014; Kelly & Vuolo, 2019; Nichter, 2015; Romaniello & Starks, 2009). Following a tradition set by Dai (1937) and popularised by Becker (1953), this study reinforces the argument that substance use is driven by people who have gradually developed a drug-use insider community. By investigating the social mechanisms, this study offers an angle to understand why people across the globe engage in substance use for fundamentally socially oriented rationales.

Overall, this study encourages future studies to consider the social mechanisms in parallel with the cultural rationale behind gift cigarettes, or the exchange of any other addictive substances. Particularly how people's differential possession of social goods, manifested as social capital and social status, unintentionally puts them at risk of using more tobacco. Even a large proportion of non-smokers are actively engaged in the circulation of gift cigarettes, propagating the normalisation and perceived acceptability of tobacco. Social norms are often endogenous in a population and resistant to policy pressure. However, recognising the issue presents an opportunity to change the overall endemic of smoking in China by transitioning the economic and social institutions. By realising that gifting cigarettes is rooted in an informal economy where people use their social capital and status for upward mobility and the need to reciprocate favour is stringent, current health policies need to be coupled with social reforms to establish a rule-based modern economic institution. Laws can be made first in state-owned economic units to prohibit and penalise sending gift tobacco, which is indeed a practical option since the Chinese Communist Party has banned drinking and gifting alcohol among employees of state-owned work units in 2012, after which the market that relies on luxury alcohol has withered (Wang & Yan, 2020). Our study also contains the preliminary result that the more developed and modern province (Guangdong) has a significantly smaller portion of respondents partaking gifting cigarettes, compared to the more traditional inland province of Shaanxi. Guangdong province features a stronger free-market economy, a higher ratio of modern tertiary-sector industry, and more institutionalised connections with other global modern economies through international trading. By modernising and enforcing rule-based economic activities, the reliance on social capital and status signals for upward mobility will dwindle and the need to exchange gift cigarettes will also evaporate along the process.

Limitations

Despite the added knowledge about the social nature of gift cigarette exchange in China and how social capital development contributes to gifting cigarettes, we note that several limitations have prevented us from generalising the findings to a broader context and concluding a robust causality between social capital and gift cigarette exchange. First, although reciprocity in social exchange is usually theorised as circulatory and non-directional (e.g. giver must receive, the recipient must also give, and so forth), the cross-sectional nature of our survey precludes causality between social capital accumulation and gifting cigarettes. Given that we cannot establish temporal ordering with certainty (e.g. gifting may influence stress), we encourage longitudinal studies that can incorporate indirect and reciprocal effects. In addition, the reciprocity of gifts may not be fulfilled by cigarettes alone, recipients of gift cigarettes may return the favour in other forms such as fine liquor or tea. We invite qualitative studies to discover other forms of reciprocating gift cigarettes among the Chinese. Second, the existence of a considerable portion of the original respondents being students led us to exclude them and rely solely on the parent respondents, whom we assumed to have accurate knowledge of the household economy. We deployed propensity score weight to reduce the bias of falsely responding as a student, but propensity score weighting has its limitation and missing data from parents prevent us from generalising the results to the entire country. Third, the two provinces were not representative of the entire country, neither were the parents of college students from these two provinces representative of all Chinese adults. We advise caution in generalising the findings to other countries or contexts and encourage future studies with increased geographic variability that would allow for the inclusion of province-level predictors.

Concluding remarks

Overall, this study shows that, rather than a culture-specific phenomenon, the deployment of gift cigarettes among the Chinese subscribes to the law-like pattern of reciprocity in social exchanges. Gifting cigarettes also adheres to the social capital theory that states that gift exchanges engender social capital, and people with better socioeconomic status attract more gifts. Without disparaging the cultural explanation of gifting cigarettes among Chinese, we invite colleagues to attend to the universal social exchange patterns in substance use, while also leave room for cultural explanations that the particular choice of tobacco as a gift in the Chinese social world may harbor certain hidden cultural preferences (Benedict, 2011; Dikötter et al., 2002). As gift cigarettes may also normalise smoking, such exchanges create a challenge for improving population health, such that intervention efforts will need to overcome the cultural importance of gifting cigarettes.

Note

1. Additional analyses using the combined student and the head of household samples showed no major changes in the results, wherein the threshold *p*-values of key variables remain intact.

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ORCID

Xiaozhao Y. Yang http://orcid.org/0000-0001-7354-7208
Dan Wu http://orcid.org/0000-0003-0849-0297

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