

## **Selfishness and Social Capital Motives and Recycling Behavior.**

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### Abstract

Prior research on recycling behavior has focused on how policy variables (such as variable pricing, curbside collection), demographic factors (age, gender, education) and attitudes (towards recycling and other environmental activities), affect recycling rates and frequency. This article draws on the emerging social capital theory and hypothesizes that social capital motives such as self-respect, goodwill, belongingness, and caring influence recycling behavior in addition to other conventional economic and demographic drivers. To test the predictions, survey data from 782 occupants of 66 buildings on a University campus were collected. Econometric analysis using linear regression techniques was used for testing the hypotheses. Results support the hypothesized relations and indicate that variations in recycling rates at both individual and building level can be explained by variations in social capital motives even after controlling for traditional demographic and economic factors.

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## **Introduction**

Rapidly increasing amounts of municipal solid waste generation combined with concerns over landfill costs, availability of landfill space, and public opposition to new landfill sites have prompted policy makers to explore options to alleviate the problem. Recycling has been extensively promoted as a way to reduce the quantities of MSW disposed and to foster pro-environmental behavior in general. However, recycling is an intriguing individual behavior; instead of simply disposing into trash, recyclers spend additional time and effort and incur other costs (e.g. buying recycling bins and transporting to drop off recycling centers) in order to voluntarily recycle, most often with relatively little or no expectation of monetary returns.

A large body of literature tries to explain household recycling behavior and develop policies for promoting recycling. This literature can be classified into three sub-streams with some degree of overlap, based on the primary underlying disciplinary framework. Literature using the economic lens primarily employs the neoclassical individual utility maximization framework to theoretically model and empirically analyze the impacts of economic variables such as variable pricing of garbage, curbside collection, deposit-refund schemes, travel costs, waste regulations etc. on recycling outcomes (Wertz, 1976; Saltzman et al 1993; Podolsky and Spiegel, 1998; Fullerton and Kinnaman 1996, Sidique et al 2013). The second stream of literature using a psychology lens posits that recycling behavior is influenced by individual internal or intrinsic factors such as attitudes (Taylor and Todd, 1995), knowledge (Hornik, et al, 1995; Oskamp et al., 1991), habit (Boldero, 1995), ecological concern, personal satisfaction etc. The influence process is often modeled using theories such as theory of reasoned action (TRA: Ajzen & Fishbein, 1980) and theory of planned behavior (TPB: Ajzen 1985). The third stream of literature employing primarily a sociology or social psychology lens, posits that the social

context and social interactions influence recycling behavior through external pressure, formation of social norms, expectations, shared attitudes and expression (Vining and Ebreo 1990); and draws on theories such as dynamic social impact theory (DSIT; Latané, 1996. Schwab et al, 2014).

Empirical studies attempt to explain recycling behavior (operationalized by either self-reported or observed recycling activities) by including a mixture of economic, psychological and social variables as explanatory variables and find differing degrees of support. For example, Fullerton and Kinnaman (1996) utilize household data in Virginia to estimate the effect of a garbage unit-pricing program on the weight of the garbage, the number of containers, the weight per can and the amount of recycling. They find that in response to unit-pricing, households reduce the number of garbage bags but not necessarily the weight of the garbage. Van Houtven and Morris (1999) examine the implication of unit-based pricing on household waste generation and find similar results. Sidique et al (2013) examine the demand for drop-off recycling sites as a function of travel costs and various site characteristics using the random utility model (RUM), and find that usage pattern of a site is influenced both by its location relative to where people live, and site characteristics such as hours of operation, the number of recyclables accepted, and acceptance of commingled recyclables etc. Sidique et al (2010) analyze the profiles of people who utilize drop-off recycling sites, and find that the usage of drop-off recycling sites is influenced by household attitudes and social pressures in addition to demographic and economic ( i.e. travel cost, convenience) factors. Prior findings on the role of social norms have been summarized in Hornik et al. (1995), Thøgersen (1996), Tonglet et al. (2004), and Sidique et al. (2010). In an extensive review and meta-analysis of extant literature Hornik et al (1995) classify variables influencing recycling into five categories: Extrinsic Incentives, Intrinsic Incentives,

Internal Facilitators, External Facilitators, and Demographic Variables. In their classification, economic variables such as monetary incentives, prizes, recycling convenience, collection frequency are included either under Extrinsic Incentives or Extrinsic Facilitators, while psychological drivers such as ecological concern, satisfaction, knowledge and commitment are included in either Intrinsic Incentives or Internal Facilitators, while sociological variables such as social influence are included under Extrinsic incentives. Their meta-analysis indicates that the strongest predictors of recycling on an average are internal facilitators, followed by external incentives and internal incentives. External facilitators and demographic variables were found have relatively little predictive power in explaining the propensity to recycle. Interestingly, among internal facilitators strongest correlations were found for knowledge and commitment, and among external incentives perceived social influence ranked the highest, while monetary incentives had a significant albeit moderate influence. This body of literature suggests that economic factors affect recycling behavior, but non-economic intrinsic individual psychological drivers, as well as the social context are also important.

Psychology theories such as TRA posit that behavioral intentions lead directly to actual behavior; and behavioral intentions comprise of cognitive elements, e.g. attitudes that reflect evaluations and beliefs about various objects, and subjective norms which constitute individual perception or self-image about how one should behave. Later theories add moderator variables to the primary link between behavioral intentions and actual behavior. Sociology theories do not consider environmental beliefs, attitudes, norms, and preferences to be either exogenous or immutable; but as heterogeneous, socially formed (Van Liere and Dunlap 1980), and volatile (Lorenzoni and Pidgeon 2006). Dynamic social impact theory suggests people influence each other in proportion to the persuasiveness, immediacy (closeness in physical and social space),

and number of others holding similar attitude, and as a result social patterns or cultural norms will emerge at the macro level (Latané, 1996; Nowak, Szamrej, & Latané, 1990). The key feature of psychology and sociology theories is a stylized linear model where behavior is driven by attitudes and norms, which in turn may be socially formed. Constructs and scales for measuring these attitudes and motives have been developed, typically through Likert type questions. However, these scales measure these motives independently and potential tradeoffs among these drivers are seldom considered.

In comparison, the key distinguishing feature of the economic approach is explicit consideration of tradeoffs in decisions, especially among economic variables such as cost of garbage disposal, costs of recycling including time and travel costs, marginal utility of income etc., while treating individual preferences as fixed. For example Wertz (1976) develops an economic model to explain household's decisions regarding waste production. Households are assumed to maximize utility, which is a function of goods consumed and waste generated, subject to a budget constraint incorporating the cost of waste disposal that increases with waste generated. The model analyzes, among other variables, the impact of unit pricing of waste disposal and income on the quantity of waste generated. The analysis suggests that the quantity of waste generated decreases when the waste disposal fee increases, and waste generation increases with income.

While few would argue with the fundamental assumption of standard neoclassical utility (SNU) model that agents' motives are selfish, an increasing amount of evidence supports the view that what an agent considers to be in his self-interest is modified by relationships, social bonds, and values (Swedberg, 1991). Indeed, Fehr and Fischbacher (2002) warn that economists can misunderstand fundamental economic questions when they disregard such social

preferences. In response, there is growing body of behavioral economics literature, that attempts to incorporate heterogeneous psychological motives and social context in individual decision-making and to explain pro-social behavior such as volunteering, philanthropy, voting, recycling, etc., that are costly to individuals but primarily benefit others.

Earlier efforts simply assumed that individuals derived utility from altruistic behavior, honesty or concern for others' welfare. For example, Saltzman et al. (1993) modify the model by Wertz (1976) and introduce recycling explicitly in the utility function via, tradeoffs between utility derived from household's degree of ecological consciousness and the time cost of sorting the recyclables from waste. Podolsky and Spiegel (1998) propose a theoretical model assuming that households derive utility from the consumption of goods and incur disutility from recycling waste, and the model suggests that the optimal level of waste generated will be at the level where the marginal disutility of recycling equals the unit price of disposal. Benabou and Tirole (2005) argue that these simple additive models are not consistent with locally downward sloping response of prosocial behavior and then develop a more unified theory of prosocial behavior that combines heterogeneity in individuals' degrees of altruism and greed, with concern for social reputation or self-respect. They posit that an agent's pro-social behavior reflects an endogenous and unobservable mix of three motivations: intrinsic, extrinsic and reputational, i.e. an agent derives direct utility from his valuations for money (consumption of market goods) and contribution to social good (including impure public good effects and pure altruistic 'warm glow' joy), and indirect reputational benefits through social signaling (including self-signaling reflecting judgments and reactions of others and self-image. The reputational benefits that can either be instrumental or purely affective, arise from judgments (inferred beliefs) regarding agent's 'individual type.' Their modeling results demonstrate tradeoffs involved, e.g. the

circumstances under which extrinsic incentives may spoil reputational value, and how multiple norms of behavior may emerge in equilibria due to signaling and spillovers. In their later article Benabou and Tirole (2011) develop a ‘third generation’ theory of moral behavior, drawing on the ‘economics of identity’ (Akerlof and Kranton 2005) wherein people make ‘identity investments’ as self-signals, that is when contemplating choices, they take into account what kind of a person each alternative would “make them” and the desirability of those self-views. B&T also propose that such investments in one’s self-view are history dependent and hill shaped with respect to prior confidence in being a moral person.

### **Social Capital Theory**

Robison et al 2002 offer a similar but alternative unifying social capital theory framework to incorporate psychological and social factors in the study of decision-making while retaining the key economic feature of considering tradeoffs. Robison et al (2002) define social capital is a person’s or group’s sympathy toward another person or group. Social capital produces socio-emotional goods (SEGs). SEGs have value because of the human socio-emotional needs they satisfy. Robison et al (2011), identify four types of basic socio-emotional needs/motives, namely need for *self respect* or self-validation of one’s actions, need for respect from others or *goodwill*, need to increase the wellbeing of others one cares about (*altruism*), and the need to socially connect with others i.e. belong to a social community (*belongingness*). These needs are in addition to the traditional need to increase one’s own well-being by own consumption (*consumption motive*), or potential consumption by increasing own income. From this perspective, selfish behavior increases one’s own income without regard for the consequences of one’s choices on others, except for their influence on one’s own ability to earn income. Selfish behavior is focused on physical goods and consumption. Self-interested

behavior recognizes that preferences exist for both SEGs and physical goods, and allows for changes in the welfare of others, judgments about one's own morality, and perceived judgments of one's actions by others via social connectedness or norms to influence decisions either affectively through emotional payoffs or instrumentally through reputational payoffs. In other words, people are willing to forego selfish consumption in order to meet socio-emotional needs. Both selfish preferences and self-interested preferences are rational and consistent with the utility maximizing behavior postulated in economics.

Social capital theory also postulates that to be effective, social capital requires conveyances to deliver the SEGs it produces. In most cases, SEGs are conveyed through exchange of conventional goods/services or money. The change in the valuation of an object compared to an arms-length transaction (or own consumption) value of the object because of the additional SEGs being conveyed is referred to as its attachment value. The attachment value however depends on the social capital, the strength of sympathetic relationship that the decision-maker has with all the parties directly or indirectly involved in the transaction at that point. Since the context specific social capital influences the 'attachment value' and hence the aggregate valuation (WTP) for conventional goods in an exchange situation, Robison and colleagues argue that it is critical to consider social capital motives in exchange theory.

The 'social capital' conceptualization of Robison et al (2002) is somewhat similar to the 'identity capital' conceptualization of Benabou and Tirole (2011), and Akerlof and Kranton (2005), but more general in the sense that the social capital investment covers a broader swath of relationships: self-identity, social identity, and altruism (identification with the society in general), and this social capital is history dependent as well. Drawing on these two streams of literature, we posit that though their single action choice in a given decision setting, an individual



is not only sending signals to multiple stakeholders i.e. self, immediate social group, and broader society, but that decision involves implicit tradeoffs among potential payoffs (affective and instrumental) with respect various motives namely consumption, self-respect, goodwill, altruism and belongingness. Such variation in the context specific tradeoffs among social capital motives which we posit may also help explain what is often considered behavioral inconsistency labeled as ‘unstable altruism’ (Benabou and Tirole 2011).

However empirically this creates a major challenge. As, Benabou and Tirole (2006) argue, the simultaneous variation in the mix of motives across individuals and situations, creates a ‘signal-extraction problem.’ Much of the earlier economics literature bypassed this problem by not trafficking in motives as a principle as well as a mark of respect for consumer sovereignty (Carson 1997). More recent theoretical literature treats such underlying motives as unobservable which must be inferred from the individual choices and the informational and social context (Benabou and Tirole, 2006).

Here, instead of attempting to empirically infer the relative importance of and tradeoffs among various social capital motives, we simply ask the respondents to state the relative importance of these motives in the specific decision context by requiring them to allocate a total of 100 points among various social capital motives in the specific decision, and then test if such stated relative importance of various social capital motives help explain action choice i.e. self-reported or observed behavior.

## **Hypotheses and Methods**

Our primary hypothesis is that recycling behavior is influenced by social capital motives in addition to conventional economic and policy variables. We also posit that incorporation of

simple stated social capital motive tradeoff information improves the predictive ability of extant recycling behavior models. Further, since recycling is a discrete, mostly unobserved and unmonitored individual activity, we hypothesize that, intrinsic motives of *self-respect* (self-validation) and *altruism* i.e. caring for the wellbeing of others will be dominant motives, compared to extrinsic/reputational motives of *goodwill*, and *belongingness* that depend on observation and response by others.

The estimation model is of the form

*Recycling rate = f(economic and policy variables, demographic variables, stated social capital motives)*

We specifically hypothesize that social capital motives of *self-respect* and *altruism* will have significant positive statistical association with recycling rates. Further we hypothesize that inclusion of social capital motives improves the explanatory power ( $R^2$ ) of models that use only economic and demographic variables as explanatory variables.

Our empirical analysis draws on data from a large University in the Midwest United States. We chose a university campus mainly because it provides a better controlled setting. The university has an established system for collection of recyclable materials from each of the buildings; it allows building occupants to separate and place the recyclable materials in specific bins located within the building often on the same floor, making recycling costs relatively small. There are no monetary rewards for recycling or prices for garbage disposal. Surprisingly, despite the relative lack of variation in the physical, economic and policy setting, the observed recycling rates in different buildings varied widely, which piqued our interest in the phenomenon. Since the individual recycling activities are limited to the same building and can be carried at any time,

the recycling activities of individuals are mostly unobserved, unmeasured and unmonitored, which allows us to focus on individual level motives and tradeoffs in recycling behavior.

We test our hypotheses at two levels, first at an individual level using self-reported recycling rates, second at a building(group) level using actual aggregate recycling rates as the dependent variable and other estimated building level averages for explanatory variables. The building level analysis using actual verified recycling data allows us to avoid the common method bias and reliability issues associated with self-reported behavior.

We first collected data from the University's waste and recycling reporting system which tracks the mass of recyclable materials collected, and wastes sent for landfilling for each of the campus buildings. This information was used to calculate the actual recycling rates for campus buildings for the period July 2012 to April 2013. The second source is data from an online survey designed to learn about individual's motivations and recycling behaviors. 22 buildings with relatively high recycling rates, 22 buildings with medium recycling rates and 22 buildings with relatively low recycling rates were chosen among all the campus buildings with more than 50 occupants. After the buildings were identified, a list of all the people working/residing in these buildings was generated and 2629 people were selected randomly among them to receive the online survey. The survey was implemented using the FluidSurvey® software. A total of 963 responses were received and 83% of responses were reasonably complete.

The online survey consisted of three parts<sup>2</sup>. The first part of the survey collected information on the key dependent and independent variables for our model, namely the self-reported recycling rate, and the relative importance of various motives in their recycling

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<sup>2</sup> There was a fourth section in the questionnaire enquiring how their recycling behavior will change in response to specific potential initiatives to improve recycling. However this data were not used in this analysis.

decisions. The respondents were asked to describe the relative importance of each motive by allocating percentage weights (from 0 to 100) to each motive, namely consumption, goodwill, self-respect, altruism, and belongingness<sup>3</sup>. There was also an option to assign weights to any other unspecified motive. (See the Appendix for relevant extracts of the questionnaire with details of the explanations that were provided). The second part included questions about building characteristics, especially about perceived convenience of recycling which the respondents rated from ‘very convenient’ to ‘no recycling facilities in my building’. The third part contained questions about demographic variables.

## **Results**

The results of our estimated regression models are summarized in Table 1. The results consist of three sets of three regression (total of nine) equation estimations, all using ordinary least squares, robust estimation procedures. The first set uses the data set of individual level responses to the online questionnaire and the dependent variable is the self-reported individual recycling rate. Three regression equations were estimated using this dataset; the first regression uses only the demographic and economic variables as explanatory variables, and the estimation results are shown in column 1-A of table 1. The second regression uses only the relative weights on the five social capital motives as explanatory variables and the results are shown in column 1-B. The third regression uses the combined set of demographic, economic and social capital motive variables as explanatory variables and the results are shown in column 1-C.

The second and third set of regressions use the building level data set that consists of building level actual measured recycling rates, and averages of the individual responses from the

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<sup>3</sup> These motives appeared in random order in the questionnaire to mitigate the order effect

building occupants with respect to self-reported recycling rates and all the other demographic, economic and motive variables. While the second set of regressions use the building average self-reported recycling rate as the dependent variable, the third set of regressions use the actual measured building level recycling rate as the dependent variable. All explanatory variables are building level averages of individual responses in these two sets of regressions. Three separate estimations were carried out similarly, first with only demographic and economic explanatory variables, next with only social capital motive variables, and third with both sets combined. The results are shown in columns 2-A, 2-B, 2-C, and 3-A, 3-B and 3-C respectively.

As can be seen in column 1-A, among the demographic and economic variables, only perceived *convenience* of recycling has a statistically significant positive association ( $p < 1\%$ ) with self-reported recycling rate. Results in 1-B show that among social capital motives, only *Altruism* and *Self-respect* motive have statistically significant positive associations ( $p < 10\%$ ) with self-reported recycling rate. These results support our hypothesis that intrinsic motives of altruism and self-respect are likely to be significant in the given decision setting i.e. recycling. Further, motive variables have slightly higher explanatory power than demographic/economic variables as can be seen by  $R^2$  which improves from 0.035 to 0.057. The observed significant positive associations continue to hold, even when both sets of variables are used in the third regression as shown in results column 1-C, and the  $R^2$  improves to 0.088.

Building level regressions with average self-reported average recycling rate as the dependent variable, show that both *Self-respect* and *Altruism* motives have strong positive association ( $p < 0.05$ ) with self-reported recycling rate when only social capital motives are used as explanatory variables (column 2-B), and when both sets of explanatory variables are combined with  $p < 0.01$  (column 2-C). Among economic variables, *Income* shows a significant

positive association in the first regression (2-A) but the association becomes insignificant when motive variables are included. Comparing the  $R^2$ s of this set of regressions also indicate that motive variables have stronger explanatory power, and adding these to traditional economic/demographic variables improves model explanatory power.

Building level regressions, with actual measured recycling rate as the dependent variable, are shown in columns 3-A, 3-B and 3-C. These results are likely more reliable because of the use of revealed behavioral data. Coefficient estimates in column 3-A show that among economic/demographic variables only the perceived *Convenience* has a significant positive association with actual recycling rate. All the social capital motives appear to have significant association with observed recycling rate when used as explanatory variables as shown in column 3-B. However when these sets of variables are used together as explanatory variables, once again perceived *Self-respect*, and *Altruism* exhibit a highly significant ( $p < 0.01$ ) positive association.. Interestingly the selfish *Consumption* motive and *Convenience* also appear to have significant positive effect ( $p < 0.01$ ) in explaining actual observed recycling rates, although it didn't appear to have significant effect on self-reported recycling rates. This supports the general observation that self-reports tend to be biased toward socially desired behaviors while observed behavior reveals a more selfish behavior. In all the cases, inclusion of social capital motive information in addition to conventional economic, demographic variables improves the predictive power of the behavioral model.

## **Conclusions**

Drawing on the growing economic literature on pro-social behavior and identity in general, and extant literature on economic, psychological and sociological drivers of recycling behavior, we

propose that the social capital theory provides a useful, broad framework to integrate these streams of literature. We hypothesize that human choices are involve tradeoffs among basic socio-emotional needs/motives, i.e. need for self-respect, goodwill, altruism and belongingness, in addition to the traditional consumption motive; and through the action choice in a given decision setting an individual is sending signals to multiple stakeholders i.e. self, immediate social group, and broader society. Empirically we address the ‘signal-extraction problem arising from such simultaneous variation in the mix of motives across individuals and situations, by a simple self-elicitation of relative importance of various social capital motives in a given decision setting. We hypothesize that such simply elicited relative weights will have significant explanatory power in explaining behavior. We empirically test our hypotheses in the context of recycling behavior (self-reported or observed) in a university campus setting, at both individual level and group level. Our results support our hypotheses that self-reported relative motive weights have statistical power in explaining observed behavior, specifically ‘self-respect’ and ‘altruism’ motives in explaining recycling behavior. Further, inclusion of simple self-elicited relative motive weights in addition to conventional economic, policy and demographic variables in the analysis of choices can help improve the predictive power of the models, but also mitigate omitted variable bias in assessment of effectiveness of various policy interventions. While the current empirical analyses is limited to recycling behavior, the insights and the methods are likely more generally applicable to a broad range of human decisions and policy analyses. In fact, not controlling for variations such context specific motives may lead to misguided policies.

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Table 1: Estimation Results

	Individual level Regressions			Building level Regressions					
Dependent Variable	Self-Reported Recycling rate			Average Self-Reported Recycling rate		Actual Building recycling rate			
<b>Demographic and economic variables</b>									
Estimation Identifier	1-A	1-B	1-C	2-A	2-B	2-C	3-A	3-B	3-C
Age	0.0962 (0.071)		0.0632 (0.068)	0.295 (0.377)		0.107 (0.271)	0.006 (0.419)		0.104 (0.446)
Education	0.0779 (0.955)		-1.152 (0.937)	6.241 (4.231)		2.471 (3.151)	-1.399 (4.749)		-1.448 (5.240)
Income	-0.174 (0.423)		-0.360 (0.415)	3.079** (1.547)		0.104 (0.985)	-0.803 (1.774)		-2.041 (2.243)
Female	-0.866 (1.518)		-1.700 (1.515)	-1.585 (6.904)		-7.872 (5.477)	-1.733 (6.738)		-1.245 (7.419)
White (Race)	1.661 (2.006)		0.926 (2.027)	-14.543 (10.141)		3.580 (8.098)	-7.415 (11.731)		-6.246 (13.046)
Convenience of Recycling	4.933*** (1.309)		4.876*** (1.296)	9.241 (7.015)		2.251 (5.653)	19.424** (7.702)		16.682** (7.970)
Recycling Attitude	1.327 (1.333)		0.466 (1.274)	9.601 (9.483)		7.079 (7.003)	-4.742 (9.087)		-2.242 (9.636)
<b>Social Capital Motive Variables</b>									
Consumption		-0.103 (0.154)	-0.047 (0.090)		0.105 (0.309)	0.052 (0.266)		0.588*** (0.209)	0.611*** (0.205)
Self-respect		0.144* (0.08)	0.129* (0.077)		0.695** (0.288)	0.624*** (0.244)		0.721*** (0.202)	0.713*** (0.229)
Altruism (Caring)		0.147* (0.081)	0.148* (0.076)		0.691** (0.292)	0.632*** (0.246)		0.684*** (0.187)	0.627*** (0.203)
Goodwill		-0.103 (0.154)	-0.131 (0.157)		-0.400 (0.344)	-0.394 (0.317)		0.936* (0.472)	0.761 (0.576)
Belongingness		0.063 (0.116)	0.0877 (0.111)		0.473 (0.476)	0.323 (0.424)		0.882* (0.514)	0.183 (0.573)
N	730	782	730	66	66	66	66	66	66
R <sup>2</sup>	0.0352	0.0569	0.0879	0.2490	0.6237	0.6619	0.1343	0.0985	0.2047
Prob>F	0.0049	0.0001	0.000	0.0156	0.000	0.0000	0.1887	0.006	0.006

## Appendix: Motives part of the questionnaire

### Part 1

Please consider the following motives that explain why you would recycle. Describe the relative importance of each motive by allocating percentage weights (from 0 to 100) to each motive.

For example, if 30% of your motivation for recycling is that other people will like and respect you more, place the number 30 (without the percent sign) beside that motive below. (Note that the six percentages allocated to the motives must sum to 100.)

- I recycle so other people will like and respect me more. \_\_\_\_\_
- I recycle to increase my own income or reduce my expenses. \_\_\_\_\_
- I recycle to increase my self-respect. \_\_\_\_\_
- I recycle to increase the well-being of persons I care about. \_\_\_\_\_
- I recycle so that I will feel more connected to others. \_\_\_\_\_
- Other motivation(s) - please describe in the box at the bottom of this page. \_\_\_\_\_

### Please review the following explanation of these motives.

#### Explanation of motives

- *I recycle so other people will like and respect me more.:* This motive focuses on a social benefit you might receive from recycling. For example, your friends and colleagues who see you recycle will think more highly of you.
- *I recycle to increase my own income or reduce my expenses:* This motive focuses on an economic benefit you might receive from recycling. So you recycle to earn more income or reduce your expenses.
- *I recycle to increase my self-respect:* This motive focuses on how you feel about yourself when you recycle. For example, if you believe recycling is important or the right thing to do, then recycling increases your self-respect.
- *I recycle to increase the well-being of persons I care about:* This motive focuses on your efforts to recycle because it will benefit people you care about. For example, you might believe that recycling will benefit the environment which people you care about will depend on in the future.
- *I recycle so that I will feel more connected to others:* This motive involves feeling like you are part of a larger community. For example, supporting a group's effort to encourage recycling may result in you feeling more connected to the group.