

# On the preference for self-related entities: the role of positive self-associations in implicit egotism effects



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**On the preference for self-related entities:  
the role of positive self-associations in implicit egotism effects**

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# Table of Contents

# Page

<b>Chapter 1: General introduction</b>	7
<b>Chapter 2: Expressing your self in writing: the use of name letters in texts</b>	23
Study 2.1	27
Study 2.2	30
Study 2.3	33
<b>Chapter 3: Why you like what reminds you of you: implicit self-esteem moderates liking for self-related products</b>	37
Study 3.1	42
Study 3.2	46
<b>Chapter 4: Trading the self: implicit self-esteem moderates the endowment effect</b>	53
Study 4.1	58
Study 4.2	61
<b>Chapter 5: General discussion</b>	67
References	79
Summary	93
Nederlandse samenvatting	99
Dankwoord	105
Curriculum Vitae	113



# CHAPTER 1

## GENERAL INTRODUCTION







Most people like themselves. High levels of self-esteem may have implications for behavior and decision-making. Recent studies have shown that people tend to move toward cities that resemble their personal names. Also, people choose jobs that have names that resemble their own names. Furthermore, it was found that people's decisions to live in a particular street and to marry a particular person, are (at least partly) based on the similarities of the names of, respectively, these streets and persons with their own name (Jones, Pelham, Carvallo, & Mirenberg, 2004; Pelham, Carvallo, DeHart, & Jones, 2003; Pelham, Mirenberg, & Jones, 2002). Thus, Dennis is more likely to live in Denver, to become a dentist, to live in Denier Street and to marry Denise, than one would expect on the basis of chance.

The unconscious preference for stimuli that are associated with the self was called *implicit egotism*. Most people feel good about themselves. Therefore, they like objects that are associated with the self (Beggan, 1992). Our names are stimuli that are closely associated with our self and, therefore, the letters constituting our name, i.e., our name letters, are highly representative for our identity (Dion, 1983). The idea underlying implicit egotism is that positive feelings about our self result in positive feelings about anything that is associated with our self. So, the more positive we feel about our self, the more positive we evaluate stimuli that are more or less part of our self. Consequently, if Dennis feels good about himself, he should show a preference for self-relevant stimuli, e.g., the city of Denver, Denier Street, and Denise. The theory would also predict that if Dennis does not feel good about himself, he should prefer neither Denver, nor Denier Street, nor Denise.

However, although these feelings about oneself are a central and crucial aspect of the theory of implicit egotism, they were not taken into account in the studies described above. We would expect that name letter effects should only be observed for people who feel good about themselves (i.e., have highly positive implicit self-esteem), but not for people who feel less good or even bad about themselves (i.e., have low or even negative implicit self-esteem).

In the present thesis we aim to investigate how people vary in the evaluation of self-associated objects. The major goal is to elucidate the implications of (implicit) self-esteem for the processes of implicit egotism. In other words, we look at the consequences of the level of (implicit) self-esteem for the evaluation of self-relevant and self-irrelevant stimuli. In this first chapter, we will first review the relevant literature on (the consequences of) implicit self-esteem and then provide a general framework for our studies.

Although this thesis is about the consequences of implicit evaluations of the self, we would like to stress that a detailed review of the literature on the self is beyond the scope of the present thesis. We start by briefly providing a perspective of what is meant by the 'self' and, then from this perspective, continue to discuss the general goal of this thesis: studying the role of implicit self-esteem in relation to implicit egotism.

## A CONCEPTUALIZATION OF SELF

When we look at the literature about the *self*, we find many different self-related topics<sup>1</sup>, sometimes referred to as the 'self-zoo' (cf. Tesser, Crepaz, Collins, Cornell, & Beach, 2000; Smeets & Holland, 2002). Because the term 'self' is used in so many different ways in the literature, it is often hard to pin down what is exactly meant by authors when they use it.

To elucidate the different meanings of the self used in articles and textbooks the following rough taxonomy can be made (see Tangney & Leary, 2003). First, authors use 'self' to refer to the 'person'. The second meaning of the term 'self' is synonymous to 'personality'. A third meaning of self refers to the psychological process involved in reflexive cognition, the human ability to think about oneself. This meaning of the self refers to the self-as-knower. The fourth meaning reflects the self-as-known meaning. This use of 'self' refers to the mental representation of people's thoughts and feelings about themselves. A fifth meaning of 'self' is the 'agent' that fulfils the executive function of the self, the self as a doer, a decision-maker. In the present thesis, we predominantly consider the latter two meanings of the self: the self as self-as-known and the executive function of the self. The self is mentally represented and the nature of these mental representations leads to behavioral consequences.

Considering the mental representation of the self, most students of the self agree that it is a complex mental structure with cognitive, affective and behavioral components (see for example Leary & Tangney, 2003; Markus & Wurf, 1987). These components reflect different sorts of properties and consequences of the self. One such property is self-esteem, which can be seen as the evaluation of the self-concept. People evaluate themselves consciously and unconsciously and as a consequence, they hold positive and negative cognitive as well as affective evaluations about themselves. The overall valence of this self-evaluation reflects the level of self-esteem.

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<sup>1</sup> A list of self-related topics would comprise concepts such as self-awareness, self-construal, self-esteem, self-affirmation, self-verification, self-presentation, self-regulation, self-rumination, self-compassion, self-efficacy, self-categorization, self-enhancement, self-improvement, self-monitoring, self-assessment, self-concept, self-handicapping, and identity, to name just a few.

## THE NATURE OF SELF-ESTEEM

Self-esteem refers to our positive and negative evaluations of ourselves (Coopersmith, 1967). Like any attitude (e.g., Eagly & Chaiken, 1993), the attitude towards the self may be based on cognitive evaluations, affective evaluations and behavioral information. Cognitive evaluations refer to the thoughts and beliefs we have about ourselves, while affective evaluations refer to the feelings we, consciously or unconsciously, have about ourselves. The level of self-esteem is shaped by all kinds of major and minor life experiences. Therefore, people differ in their levels of self-esteem. But, despite these differences in self-esteem, people generally strive to enhance it and are motivated to maintain positive self-esteem (see Sedikides & Strube, 1997).

There are three major theories that explain our need for self-esteem. First, Terror Management Theory considers self-esteem as a buffer against (the fear of) our own death (Greenberg, Pyszczynski, & Solomon, 1986; Solomon, Greenberg, & Pyszczynski, 1991). Second, Dominance Theory argues that self-esteem reflects one's social dominance status (Barkow, 1975, 1980). Third, Sociometer Theory explains self-esteem as a monitor revealing our social status (Leary, 1999; Leary & Baumeister, 2000; Leary & Downs, 1995). At a more fundamental level, the latter two theories can be explained by our "need to belong" (Baumeister & Leary, 1995); people are motivated to bond with others in relationships that provide ongoing, positive interactions. From an evolutionary perspective, these positive interactions may have fostered group survival, because it enhanced cooperation with other group members to the benefit of mutual protection and nurturance. Of course, positive interactions also facilitate reproduction.

It is concluded that positive feelings about the self, or high self-esteem, are an indicator of our chances to survive and therefore, we try to keep our self-esteem high. In many ways, satisfying the need for self-esteem is critical to our entire outlook on life. Compared to low self-esteem people, people with high self-esteem tend to be happier, healthier, more productive, more successful, more confident, more persisting, more independent and they suffer less often from ulcers. Thus, maintaining positive self-esteem entails many benefits (Baumeister & Leary, 1995).

## IMPLICIT SELF

As noted before, we have distinguished three components of self: cognitive, affective and behavioral components. It was long thought that psychological processes could best be measured by explicit measures or introspection, e.g., by asking people what they thought (cognitive responses) and what they felt (affective responses). The unique human ability of self-reflection was considered the only path to valid knowledge

of the self. But James (1890) already noted the problem of the self simultaneously being the knower and the known. The object of study was also the agent who was doing the studying. Asendorpf, Banse, and Mücke (2002) mentioned two limitations of explicit measures of the self. First, these measures are highly susceptible to social desirability biases (Edwards, 1957). People often use explicit measures to present themselves in a social desirable way leading to inaccurate assessments of the measured trait (Paulhus, 1991). The second problem of self-reports is the limited accessibility of the self via self-report methods. Some parts of the self are not accessible by introspection (Bargh, 1994; Bosson, Pennebaker, & Swann, 2000; Epstein, 1994).

In the past 20 years, research in social psychology has gradually shifted towards an increased interest in implicit processes. It was acknowledged that people do not have full access to the psychological processes that influence everyday behavior, cognitions, and feelings. Researchers of implicit cognition devised new paradigms for the study of several traditional topics (see Greenwald & Banaji, 1995). In the present thesis, we use the term 'implicit' to refer to the methodological and empirical way of measuring automatic and/or uncontrollable processes associated with the self rather than measuring something as the implicit self (compare Asendorpf, et al., 2002; Fazio & Olson, 2003; Olson & Fazio, 2002; Tatarodi & Ho, 2006).

This interest in implicit self-processes resulted in the development of several implicit self-esteem measures, such as word stem completion measures (Hetts, Sakuma, & Pelham, 1999; Pelham & Hetts, 1999), evaluative priming tasks (Pelham & Hetts, 1999; Spalding & Hardin, 1999), the self-esteem Implicit Association Test (IAT) (Farnham, Greenwald, & Banaji, 1999), and the name letter measure (Nuttin, 1985).

Bosson et al. (2000) examined several explicit and implicit self-esteem measures. They found that explicit and implicit measures did not correlate, which led the authors to conclude that they measure two different constructs (but see; Krizan & Suls, 2008; Pelham, Koole, Hardin, Hetts, Seaha, & DeHart, 2005). Furthermore, they showed that the available implicit measures hardly correlated with each other, leading the authors to conclude that different implicit self-esteem measures were measuring different things or different parts of the same thing. One striking result of their study concerned the weakness of the statistical properties (e.g., test-retest reliability) of various implicit self-esteem measures.

However, one of the implicit self-esteem measures with desirable properties is the name letter effect (Nuttin, 1985). According to Bosson and colleagues, the name letter effect is satisfyingly reliable and has good test-retest reliability. For these reasons we predominantly use the name letter measure in this thesis to measure participants'

implicit self-esteem. Another reason for this choice is that the name letter effect has been studied profoundly. However, we stress that implicit self-esteem is not measured exclusively by the name letter measure (as we will see in Chapter 4 of this thesis).

## **THE NAME LETTER EFFECT**

Nuttin was the first to show that people have a strong preference for their own name letters compared to letters that are not in their names (Nuttin, 1985). According to Nuttin (1985, 1987) and Koole (2000), the name letter effect originates from the very early development of affect towards our self and our names. As soon as we are aware of our self, we understand that our name represents us and that we are referred to by our names. From childhood onwards, the feelings about our self, or the affect associated with the self also spreads to our names. Guardo and Bohan (1971) found that children find their name one of the most important aspects of their identity and that they would not be the same person if their name would be changed. Lewis and Brooks-Gunn (1979) showed that 50% of children of the age of 15 months refer to themselves by their name, a percentage that increases by age. Nuttin (1985, 1987) argued that positive feelings about the self lead to positive feelings about anything that is associated with the self (see also Koole & Pelham, 2003).

Nuttin (1985, 1987) showed that people like their own name letters better than other letters. He used two (or three) yoked vertical letter strings, which consisted of one of the participants' name letters and one (or two) non-name letters with the same frequency and it was the participants' task to indicate which letter of each combination of letters they liked most. Nuttin found that people consistently showed an unconscious preference for their name letters. In another paradigm Nuttin (1987) used all letters of the alphabet and participants had to indicate their preference for six letters of the alphabet. Again he found that people show a preference for their name letters. In this last study he investigated this effect in several European countries. Kitayama and Karasawa (1997) showed that this name letter preference also existed in Eastern countries, like Japan.

Just as with preference for name letters, Kitayama and Karasawa (1997) showed that there is also a preference for birthday numbers: The birthday number effect. People have a strong preference for numbers that refer to their date of birth over other numbers that do not refer to their date of birth. For example, if Marielle's birthday was on the 14<sup>th</sup> of May, then according to the birthday number effect, she should like the number 14 more than other numbers.

The name letter effect (and birthday number effect) is claimed to be a measure of implicit self-esteem (See Bosson et al., 2000; Kitayama & Karasawa, 1999; Koole &

Pelham, 2003). The stronger the preference for one's name letters (and birthday numbers), the higher the implicit self-esteem. Before describing the empirical evidence supporting the idea that the name letter effect reflects implicit self-esteem, we will first discuss some alternative explanations for the name-letter effect.

### **DISCRIMINANT VALIDATION OF THE NAME LETTER EFFECT: ALTERNATIVE EXPLANATIONS**

Several alternative explanations have received empirical attention. One of the alternative explanations for the existence of the name letter effect that received most attention is the mere exposure explanation (Zajonc, 1968). According to this explanation, people are exposed to their own name letters more often than to other letters, which results in a more positive evaluation of own name letters. This explanation cannot account for name-letter preferences for several reasons.

First, Nuttin (1987) used a design that controlled for the mere exposure explanation. Participants had to indicate their top six rating of all the letters in the alphabet. The results showed that people have a preference for their name letters over letters that or not in their names, irrespective of the frequency of that letter. If the mere exposure explanation were true, he should have found a preference for the most frequent letters in the alphabet.

Second, Jones, Pelham, Mirenberg, and Hetts (2002) found that even people whose name letters were relatively rare in English language (Z, X, W, J, K), showed a preference for name letters. These people liked these rare letters even more than the most common letters in English (E, S). A mere exposure explanation cannot explain this finding, because even when your name contains such a rare letter, you would not come across it more often than E or S. Third, the mere exposure explanation cannot be accurate because of the asymptotic effect of repeated exposure on liking. Although mere exposure breeds liking, it has been shown that when the number of exposures exceeds 20 times, the evaluation of the exposed object no longer increases (Bornstein, 1989; Greenwald & Banaji, 1995). Because we encounter our name letters and all other letters far more frequently than 20 times every day, it is unlikely that any additional exposure to name letters still has an incremental evaluation effect. Fourth, another finding that contradicts the mere exposure explanation, is the fact that women especially like the first letter of their *first* name and men especially like the first letter of their *last* name. Because it is unlikely that men and women differ in their exposure to their first and last initials (Kitayama & Karasawa, 1997) this result would be at odds with a mere exposure explanation. In sum, these findings suggest that the mere exposure does not constitute

a plausible alternative explanation for the name letter effect.

Hoorens (1990) wrote an interesting paper in which she ruled out two additional alternative explanations for the name letter effect: The 'primacy of mastery' explanation and the 'subjective familiarity' hypothesis.

The first alternative explanation mentioned by Hoorens (1990) is the 'primacy of mastery explanation' which argues that people's name letters are the very first letters children learn to read and write (see also Justice, Pence, Bowles, & Wiggins, 2006) and that this is accompanied by such an intense 'mastery' affect, that the (name) letters associated with it remain preferred throughout a person's lifetime (Hoorens & Todorova, 1988). So, learning to write your own name raises such an intense pleasant feeling that this feeling remains associated with your name letters for years. If this explanation were true, the name letter effect should be the strongest in the years shortly after you learned to write your name. Nevertheless, the name letter effect is also observed in an alphabet that was learned in a later stage of life, usually in high school. Thus, Greek people show the name letter effect in their native Greek alphabet, but also in the later learned western alphabet. These findings render the primacy of mastery explanation for the name-letter effect less plausible (see also Hoorens, Nuttin, Erdélyi Herman, & Pavakanun, 1990).

The second alternative explanation described by Hoorens (1990) is the 'subjective familiarity' hypothesis that states that people show a preference for their name letters because these letters seem more familiar to them than other letters do, due to the high accessibility of the self-structure in memory (Greenwald & Pratkanis, 1984) and the prominent place of one's own name in the self-concept (Dion, 1983), causing a subjective exposure phenomenon that enhances name letters' attractiveness. If this hypothesis were valid, it should also be expected that the frequency overestimation of name letters would correlate with name letter preference. Researchers found an overestimation of name letter frequency, but this was independent of name letter preference (cf. Hoorens, 1990). Thus, the subjective familiarity hypothesis cannot explain the name letter effect.

## **AFFIRMATIVE VALIDATION OF THE NAME LETTER EFFECT: THE NAME LETTER EFFECT AS A REFLECTION OF IMPLICIT SELF-ESTEEM**

The next question that must be addressed is whether the name letter effect is a reflection of implicit *self-esteem*. Koole and Pelham (2003) argued that because of the positive attitude most people have toward the self (Banaji & Prentice, 1994; Baumeister, 1982; Greenwald, 1980; Koole & Sedikides, 2000; Myers & Ridl, 1979; Taylor & Brown, 1988), a positivity bias toward self-associated stimuli may be interpreted as indirect



evidence of implicit self-esteem. They formulated four properties that the name letter measure should possess in order to consider name letter preferences to be valid indicators of implicit self-esteem.

First, name letters should be associated to the self. Dion (1983) stated that there is a close connection between an individual's name and his/her personal identity and sense of self. Other authors went further by arguing that our name is a *central* aspect of the self-concept (Bugental & Zelen, 1950). From our earliest youth we learn a strong association between ourselves and our names. Children start recognizing themselves in mirrors at the same time they start referring to themselves by their own name (Darwin, 1877). Sherif and Cantril (1947) suggested that during infancy, the child learns its name and around this name it gathers many characteristics that define its psychological identity. Guardo and Bohan (1971) asked children to name the main parts of their selves and they found that children find their names one of the most important constituents of their identity.

When asked who they are, people often answer by expressing their name, even when they were instructed to consider the questionnaire anonymous (Bugental & Zelen, 1950). Holt (1939; cited in Dion, 1983) asked people if they could imagine being named anything else and still be the same person that they were. Most participants reported that they would be another person. According to Sherif and Cantril (1947) most people may not be aware of how much their names are part of themselves. We are pleased to notice when an old acquaintance remembers our name and we feel hurt when a person who should know our name has forgotten it. Gebauer, Riketta, Broemer, and Maio (2008) showed that the answer to the question "how much do you like your name?" is a good reflection of someone's global self-esteem. Taken together, we may conclude that our name letters have a strong association with the self.

Second, given the fact that most people possess positive self-views, name letter evaluations should be positively biased, at least for most people. As has been noted above, this is the case. Most people show a positive bias towards their own name letters. This effect was first found by Nuttin (1985) who instructed participants to choose the most attractive letter out of a two or three letter combination. More recently, the name letter effect has also been measured by asking participants to evaluate all letters of the alphabet (e.g., Koole, Dijksterhuis, & van Knippenberg, 1999). The name letter effect is a very robust phenomenon that was found in different countries, in different cultures, using different measures, using different alphabets and using different letter styles (e.g., capitals vs. lower case letters) (Kitayama & Karasawa, 1997; Nuttin, 1987). In the empirical chapters of this thesis, we will repeatedly find such a preference for name

letters. To conclude, people are positively biased to their own name letters.

Third, people should have little or no awareness that they show a preference for their own name letters. Nuttin (1985) found the name letter effect using letter strings in which participant's names were included and he encouraged participants to discover a structure in these letter strings. None of the participants discovered the consistent occurrence of name letters in the letter strings. Likewise Nuttin, in our studies no single participant came up with the idea that we were measuring preference for own name letters (see also Koole et al., 1999).

Fourth, the preference people show for their own name letters should be uniquely attributable to the association between name letters and the self. Explicit strategic considerations for name letter preferences can be excluded, because there are no benefits of preferring name letters in a pragmatic or material sense.

We add a fifth property to this list of conditions for the name letter effect to be a measure of implicit self-esteem. If the name-letter effect is related to the implicit evaluation of the self, it should be sensitive to self-esteem manipulations. Indeed, it has been shown that the name letter effect is susceptible to success or failure feedback (Koole et al., 1999; Smeets & Holland, 2002). People show a drop in their name letter evaluations after a self-esteem threat and a rise after a self-esteem boost. More pertinently, recent studies on evaluative conditioning and affective priming have provided evidence for the unconscious nature of evaluative name letter processes (Baccus, Baldwin, & Packer, 2004; Dijksterhuis, 2004). For example, in several studies, Dijksterhuis subliminally conditioned words like 'I' or 'me' with positive traits and showed that people's name letter evaluations subsequently increased. The link between the name-letter effect and the implicit evaluation of the self has also been elucidated by means of an affective priming paradigm. Wentura, Kulfanek, and Greve (2005) used such a paradigm to study people's affective associations with their initials. Participants were primed with their initials and subsequently exposed to strongly valenced adjectives. Participants were asked to press a key as quickly as possible to indicate whether the presented word was positive or negative. In line with the idea that name-letters are automatically evaluated, in trials in which participant's initials were primed before the adjective, facilitated responses of positive adjectives and inhibited responses of negative adjectives were obtained.

In sum, given the empirical evidence thus far, it is safe to conclude that the name letter effect can be considered a valid indicator of implicit self-esteem. Our own data presented in this thesis further corroborate this idea.

## THE CONSEQUENCES OF IMPLICIT EGOTISM

In the literature, there are several indications that when other people share important features with us our evaluations of and behavior towards these people are more positive than those concerning unrelated people. Finch and Cialdini (1989) found that people, who shared their birthday with a disliked other person, evaluated this person less negatively. A study by Miller, Downs, and Prentice (1998) showed that sharing a birthday with another person led participants to be more cooperative in a competitive situation. When participants had to allocate money in a social dilemma game, they gave the other person more money when they shared their birthday with this other person. Burger, Messian, Patel, Del Prado, and Anderson (2004) showed that people are more likely to comply with a request of someone who shared their birthday, their first name or fingerprint features. Thus, you have more positive evaluations of and display more positive social behavior toward the people you share arbitrary properties with, like e.g., your birthday than you do towards people lacking these similarities.

Recent research by Pelham et al. (2002) showed that these consequences of sharing features are not limited to evaluations and action in relation to minor decisions and behaviors. They described an interesting set of ten studies, using archival data, in which they showed that name letter preferences may influence major life decisions such as the place to live and what to do for a living. They found that people are disproportionately likely to live in places the names of which resemble their own first or last names (e.g., Dennis who lives in Denver). They found that people are overrepresented in *cities* and *states* that resembled their names, compared to chance expectancies of name prevalence (e.g., George who lives in Georgia). In addition to the evaluation of letters, researchers have also focused on the evaluation of numbers as a function of egotism, i.e., the birthday number effect. The birthday number effect consists of the finding that people have an over-preference for numbers that refer to their date of birth. This effect was capitalized on in yet another study of Pelham et al. (2002). They investigated city names that contain numbers, like Two Harbours, Three Forks, or Five Points. The researchers found that people tend to live more often in a city containing reference to their birthday number (e.g., people with the number 2 in their date of birth were overrepresented in the city of Two Harbours). Subsequent studies showed similar findings with regard to *streets* (e.g., Mary lives in Mainstreet), type of *jobs* that people have (e.g., Dennis is dentist) or *businesses* that people started (e.g., Carl Jakobsen started Carlsberg beer).

Probably, major life decisions are not only based on very well considered motives and arguments, but they are often taken in a more unconscious, automatic way,

which is at variance with existing ideas about rational choice. Overall, the findings of Pelham et al. with regard to peoples' gravitation toward self-related cities, states, and jobs constitute intriguing demonstrations of the consequences of implicit egotism. Recently, Anseel and Duyck (2008) showed in an intriguing study that people are more likely to work for companies with initials matching their own than to work for companies with other initials.

Jones et al. (2004) provided additional empirical evidence for the consequences of implicit egotism. They showed that implicit egotism also has interpersonal consequences. The researchers found that participants were more attracted to people whose arbitrary experimental code numbers was similar to their own birthday numbers than were people who did not share their birthday numbers with these people. They also found that participants felt more attracted to people whose surnames resembled their own surnames. In four studies they found that people are disproportionately likely to marry someone whose first letter of the last name is also part of their own name. In the final study of their paper they subliminally paired a number with the participants' names. By doing so, the self-relevance of the number was enhanced. After this, participants viewed a picture of a girl wearing a sweater with a specific number on it. They found that participants were more strongly attracted to the girl when she wore a sweater with the number that was paired with their name than when the sweater displayed a control number. So implicit egotism also involves judgments about other people and choices for life mates.

Brendl, Chattopadhyay, Pelham, and Carvallo (2005) found similar results. They manipulated the brand name of beverages so that the brand name started with letters from participants' first name or not. Participants were more likely to choose the product with the brand that started with their name letters. Holland, Wennekers, Bijlstra, Jongeneelen, and Van Knippenberg (in press; see also Bijlstra, Jongeneelen, Wennekers, Holland, Smeets, & van Knippenberg, 2006) showed that people drink more of a beverage when its brand name contains name letters compared to a non-name letters beverage.

Nelson and Simmons (2007) showed that people are even attracted to name letter-related behaviors that are normally consciously avoided. For instance, pupils whose names started with a 'C' or a 'D' were more likely to have poor grades than pupils whose names started with an 'A' or a 'B'.

Chandler, Griffin, and Sorenson (2008) found that name letters also play a role in donations for victims of a hurricane. Individuals who shared an initial with the hurricane name were overrepresented among hurricane relief donors relative to the

baseline distribution of initials in the donor population.

It is clear that the effects of implicit egotism go beyond trivial preferences or decisions. Also major life decisions may (partly) ensue from implicit egotism. However, we think this is not the whole story and therefore we will extend the research on implicit egotism in the present thesis.

## **EXTENDING THE RESEARCH ON IMPLICIT EGOTISM**

Although the consequences of implicit egotism described above are intriguing and sometimes even astonishing, the data are also limited in important ways. First, the level of implicit self-esteem is a central construct in the theorizing about implicit egotism. The theory is based on the idea that positive feelings about the self result in a more positive evaluation of anything that is associated with the self, like name letters, birthday numbers, cities which names resemble our names, interaction partners who share attributes, etc. Although most people have a positive attitude toward their self (Banaji & Prentice, 1994; Baumeister, 1982; Greenwald, 1980; Koole et al., 2000; Myers & Ridl, 1979; Taylor & Brown, 1988) the level of (implicit) self-esteem is an individual difference variable that shows considerable variance between people. According to the theory of implicit egotism, the enhanced evaluation of stimuli that are associated with the self is expected to be confined to people with high implicit self-esteem. Therefore, it can be hypothesized that only people with high (implicit) self-esteem engage in implicit egotism and those with low implicit self-esteem will not. Thus far, these crucial hypotheses concerning implicit egotism have been largely neglected (see however Gawronski, Bodenhausen, & Becker, 2007).

## **THE PRESENT THESIS**

The aim of this thesis is to extend the research on implicit egotism. In Chapter 2, we present an entirely new implicit egotism phenomenon. We reasoned that if people have a strong preference for their name letters, they might also show an overuse of these letters in written text production. And if so, people might especially do this in positive words but not in negative words. We tested the hypotheses that people use more name letters in written texts (Study 2.1), that the level of implicit self-esteem moderates this effect (Study 2.2) and that the effect is stronger for positive words compared to negative words (Study 2.3).

In Chapter 3, we tested the hypothesis that people with high implicit self-esteem like self-relevant objects better than people with low implicit self-esteem. For products

that are not self-relevant no such differences in evaluation were expected. In Studies 3.1 and 3.2, we measured implicit self-esteem and participants were exposed to an advertisement of a self-relevant product and a non self-relevant product. Self-relevance was manipulated by either including name-letters of the participant or non-name letters in the name of the product. Finally, the evaluation of the product was measured.

In Chapter 4, we studied whether implicit egotism goes beyond name letter preferences and we tested whether the level of implicit self-esteem moderates the evaluation (Study 4.1) or the allocated price (Study 4.2) of a product that we either do or do not possess. We expected that only people high in implicit self-esteem would evaluate a product that they possessed more positively than a product that they did not possess. For people low in implicit self-esteem we did not expect an effect of possession. In both studies the product was made self-relevant by telling participants in the experimental condition that the product was theirs and that they could keep it.

In Chapter 5, we summarize the results of this thesis and discuss them in terms of the relevant theories about implicit self-esteem and implicit egotism. We also discuss some directions for future research. Chapters 2 to 4 can be read as independent empirical chapters. As a consequence, some sections within these chapters may partly overlap.



## CHAPTER 2

# EXPRESSING YOUR SELF IN WRITING: THE USE OF NAME LETTERS IN TEXTS

Most people feel good about themselves and, therefore, they like objects that are associated with the self (Beggan, 1992). Because our names constitute a cherished aspect of our self, our name letters are important self-symbols which are highly representative for our identity (Dion, 1983). One's implicit self-esteem is reflected in one's name letter evaluations (Koole et al., 1999; Nuttin, 1987). Therefore, people like their name letters. This name letter effect (Nuttin, 1985) is a very robust effect that was shown in many countries, in different cultures and using different alphabets (Kitayama & Karasawa, 1997; Nuttin, 1987). The preference for self-associated objects is referred to as implicit egotism (Pelham et al., 2002). Name

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**A**s we have seen in Chapter 1, most people hold positive attitudes towards themselves (Koole, 2000). A positive self-attitude, or high self-esteem can be seen as a reflection of one's 'social success' (Leary & Baumeister, 2000) and is found to be associated to several positive outcomes. People use a whole range of self-protective and self-enhancing strategies to protect, repair and keep their high level of self-esteem (Sedikides & Strube, 1997).

Most people feel good about themselves and, therefore, they like objects that are associated with the self (Beggan, 1992). Because our names constitute a cherished aspect of our self, our name letters are important self-symbols which are highly representative for our identity (Dion, 1983). One's implicit self-esteem is reflected in one's name letter evaluations (Koole et al., 1999; Nuttin, 1987). Therefore, people like their name letters. This *name letter effect* (Nuttin, 1985) is a very robust effect that was shown in many countries, in different cultures and using different alphabets (Kitayama & Karasawa, 1997; Nuttin, 1987). The preference for self-associated objects is referred to as *implicit egotism* (Pelham et al., 2002).

Name letters may have implications for decision-making and behavior. Recently, Anseel and Duyck (2008) showed in an intriguing study that people are more likely to work for companies with initials matching their own than to work for companies with other initials. Earlier studies have shown that people tend to move toward cities that resemble their personal names. Also, people choose jobs which names resemble their own names. Furthermore, it was found that people's decisions to live in a specific street and to marry a particular person, was (at least partly) based on the similarities with their own names (Jones et al., 2004; Pelham et al., 2003; Pelham et al., 2002). Thus, Dennis is more likely to live in Denver, to become a dentist, to live in Denier Street and to marry Denise, than one would expect on the basis of chance.

Underscoring the idea that self-symbols influence decisions and behavior implicitly, Nelson and Simmons (2007) showed that people are attracted to behaviors that are relevant to their name letters even when these behaviors are normally consciously avoided (e.g., getting a 'C' or a 'D' in class). In other words, name letters may unconsciously influence behavior even when it is undesirable.

In general, it may be argued that people preferentially engage in behaviors they like, eat foods they like and go out with friends they like. Children prefer to play with toys they like, and people tend to wear their favorite clothes and watch their favorite TV programs. Considering that some behavioral name letter effects are engaged in unconsciously (e.g., getting lower grades, see Nelson & Simmons, 2007), one may wonder what the limitations are of the preferential adoption of name letter-related

behaviors. For instance, would the general preference for own name letters also extend to their preferential use in language production? In other words, if people have a preference for their own name letters, would this unconsciously entice them to use these letters more often when they say or write something?

Research has demonstrated that people show an unconscious bias for positive self-relevant memories (Sedikides & Strube, 1997). It is quite possible that people also better remember events involving name letters compared to those involving non-name letters. There may even be a better memory for words containing name letters than for other words. There is as far as we know no extant research on the issue of preferential name letter memory in the domain of episodic memory. Our present research question, however, addresses a more fundamental question concerning semantic memory that may be tangentially related.

It is quite conceivable that on an implicit, associative level, words containing name letters have over time become more accessible in memory and are, therefore, more often used in spontaneous language production. Although it is not clear whether the processes and rules of language production processes permit such a bias, but it would be an interesting issue to investigate. Until now empirical evidence for this intriguing hypothesis is lacking.

Consistent with this idea, we propose that a person's preference for own name letters will, in principle, be (unconsciously) manifested in all preferences, behavioral decisions and actions in which letters are involved. Thus, name letter preference may not only be reflected in the specific long term life decisions listed above, but in all other preferences, productions, choices and behavior involving letters, however short-lived or trivial they may be. This generalization includes, e.g., preferences for products, brands and shops, liking for popular figures and politicians, evaluations of specific objects, actual voting and buying behavior and, last but not least, spoken and written language production.

Because people in general prefer own name letters to other letters, we expect them to display an enhanced use of name letters in written texts. For instance, we would expect that a text written by Lea does contain more 'L's than a text written by Bert. We expect this to be the case for any kind of written text, e.g., scientific articles, abstracts, short essays, shopping lists, etc.

It may be important to distinguish between different kinds of written texts. For instance, scientific publications are relatively formal and subject to a long and scrutinized editorial process in which words are added, changed and deleted. These texts result from a fairly slow and deliberative production process. Conversely, there are also many types

of informal, quickly produced texts like in an email or in a short essay written on the spot. These different kinds of texts might show differences in letter composition because of the different production procedures involved (e.g., scrutinized and formal vs. spontaneous and informal).

In line with our general argument outlined in Chapter 1, we expect the level of implicit self-esteem to moderate name letter text production. The level of implicit self-esteem plays a crucial role in the theory of implicit egotism and therefore we expect to obtain a correlation between implicit self-esteem and name letter use.

To summarize we expect a general overuse of own name letters in both formal and informal written texts. Furthermore, we expect the overuse of own name letters in written texts to be correlated with implicit self-esteem. Obviously, these texts are made up of all kinds of words, mostly fairly neutral words, but some words are probably clearly positive while others are negative. An additional question addressed in this chapter is whether own name letters are more frequently used in positive than in negative words.

In the present research we investigated (name) letter production in written texts and words, in three different studies using different kinds of texts. In Study 2.1, we investigated letter use in formal, scrutinized texts in abstracts of one volume of the *Journal of Personality and Social Psychology*. In Study 2.2, we investigated letter use in informal, spontaneous texts like a short essay. Again we analyzed name letter usage. In Study 2.3, we tested the moderating role of word valence in letter use. We expected to obtain a relatively greater use of name letters in the written texts (Study 2.1 and 2.2) and a specific overuse of name letters in positive valenced words and not in negative valenced words (Study 2.3).

## Study 2.1

In the present study we investigated name letter production bias in a formal context, i.e., abstracts of scientific articles. We counted letter frequencies in each abstract and we expected the name letters of the (first) author to be overrepresented in the abstracts. This idea is partly based on a personal communication with Brett Pelham (2001).

## Method

In this study we used all abstracts of the articles that were published in 2005 in the *Journal of Personality and Social Psychology*. We counted the letters that were used

in these abstracts and used the name letters of the first author to indicate whether a letter was a name letter or not.

### Procedure

In this study we used the 118 first author names and the abstracts of all articles published in the *Journal of Personality and Social Psychology* in 2005. We counted the letters used in the abstracts and marked the letters from the first author's name (i.e., first and last name).

We first counted the number of times each of the 26 letters was used in the abstracts. So *per abstract* we obtained a score for the 'A', and 'B', 'C', and so on. To correct these scores for abstract length, we divided these 26 scores by the overall number of letters used in the abstract to obtain a score per letter for every (single) abstract.

Subsequently, we obtained a 'mean norm score per letter' based on the letters used in all abstracts, by computing for every single letter, a mean norm score of all authors that did *not* have that particular letter in their names. Per author we computed a difference score for every name letter by subtracting the mean norm score for every single letter from the individual name letter score for every single name letter. By averaging these difference scores, we obtained *per author* one difference score indicating the relative use of name letters. We based this measure on the Kitayama and Karasawa (1997) procedure for calculating the name letter effect.

This procedure can be executed for all name letters to compute the name letter production effect. It is also possible to do this for the letters of the first name only (first name letter production effect) to demonstrate preferential production of the letters in the first name. The same is possible for the letters of the last name (last name letter production effect). All three effects were computed in the present study.

### Results

In order to test the hypothesis that authors show an overuse of name letters in scientific texts we conducted a one-sample t-test on the difference score, using zero as the test value. We found an effect on the whole name,  $M_{\text{dif}} = 0.13$ ,  $t(117) = 5.60$ ,  $p < .01$ , indicating that authors use their name letters relatively more often in their abstracts. Only looking at the letters of the first name<sup>2</sup>, we also found the expected effect,  $M_{\text{dif}} = 0.10$ ,

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<sup>2</sup> In this analysis we followed the same procedure as the one that was used for the whole name, but now we only looked at the difference scores of the first name, still using *all* letters in the first and last name as name letters.

$t(117) = 2.39, p < .05$ . Furthermore, a significant effect for the letters of the last name<sup>3</sup> was also obtained,  $M_{\text{diff}} = 0.15, t(117) = 3.78, p < .01$ .

## Discussion

We found that authors of *Journal of Personality and Social Psychology* (Volume, 2005) articles use their name letters more often in their abstracts than one would expect based on general letter frequency in these abstracts. We counted the number of (name) letters of the first author in the abstracts of their articles and found that name letters were overrepresented in these texts. Apparently people do not only prefer their name letters, they also use them more in written language. To the best of our knowledge, this is the first demonstration of overproduction of name letters in written texts.

Of course the nature of these scientific texts is very formal. In formal environments one is more often referred to by the last name and less often by the first name. In scientific publications as well as in scientific environments like conferences and lectures, the authors are often referred to by their last names. So, when writing a scientific article, the context might be more associated with the last name than with the first name. This may account for the results showing that the effect for the letters of the last name seemed slightly stronger than the effect of the first name.

The texts that we analyzed in this study were the result of a slow production process in which words were deliberately chosen, reconsidered, sometimes maybe removed, and maybe inserted again by the (first) author. The words were scrutinized by the first author and maybe also by one or more co-authors. So the texts under investigation were well considered and subject to a careful editing process. Even though it is difficult to assess the role of co-authors in the writing process, we obtained a clear first author name letter production effect.

In Study 2.2 we asked people to spontaneously write a short essay about a trivial subject like a dishwasher instead of a formal scientific publication. Although this study is a conceptual replication of Study 2.1, there are two major differences. First, the texts under investigation are not the result of a very well scrutinized process, but are written quickly and spontaneously. In a way these texts reflect 'online' language production to a much larger extent than article abstracts in journals. Second, the context in Study 2.2 is informal. In informal situations people are more often referred to by their first names. Informal situations are thus associated with first names and therefore we

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<sup>3</sup> In this analysis we followed the same procedure as the one that was used for the whole name, but now we only looked at the difference scores of the last name, still using *all* letters in the first and last name as name letters.

expect the name letter effect in this study to be stronger for the first names than for the last names.

Study 2.2 differs in yet another way from Study 2.1. As outlined in Chapter 1, we would expect, in general, name letter preference effects to be contingent on positive implicit self-esteem. That is, we expect people to display name letter preferences only when they have positive implicit self-esteem and not when self-esteem is negative. Therefore, it would be useful to study implicit self-esteem as a moderator of name letter effects. Now, while we have not been able to obtain implicit self-esteem data from the first authors in JPSP, volume 2005, we aim to measure implicit self-esteem in Study 2.2 by means of a name letter measure.

## **Study 2.2**

In this study we investigated participants' letter use in short essays that were written during the experiment. We counted the letter frequencies in each essay and we expected the use of participants' name letters to be correlated with the participants' level of implicit self-esteem.

### **Method**

#### *Participants*

86 Students of Radboud University Nijmegen participated in this study. They received € 1, - for participation.

#### *Procedure*

Participants were seated individually in a cubicle behind a computer and started with the experiment. They were told that this was a study on 'the relation between visual and linguistic information' and that the computer would give all the instructions. Participants were asked to write a description of the appearance and the functioning of a dishwasher as if explaining it to a blind person. Participants were instructed to type this description on a computer. Nothing was said about the number of words that should be used; participants were allowed to use as many words as they needed to explain a dishwasher.

We first counted the number of times each of the 26 letters were used in the text produced by the participants. The procedure to obtain the 26 difference scores per person (the difference in frequency of name letters and non-name letters) that were needed for the analysis was identical to the one used in Study 2.1.

The level of implicit self-esteem was assessed using Nuttin's name letter

measure, which was introduced as a study of intuitive judgments of simple stimuli (Nuttin, 1985; see also Koole et al., 1999). Participants were asked to intuitively evaluate letters of the alphabet as quickly as possible on a 5 point scale (1 = not at all beautiful to 5 = very beautiful). The 26 letters of the alphabet were presented in random order. The name letter effect was calculated using a procedure proposed by Kitayama and Karasawa (1997). Firstly, we computed 26 norm evaluation scores, by calculating the mean evaluation of each letter, only using the letter evaluations of people whose names *did not* contain this letter. Then, for every letter of the participant's name (first and last name), norm evaluation scores were subtracted from the participant's evaluation score of the name letters. The name letter effect is the average of these difference scores. The 26 letters of the alphabet were presented in random order.

After participants completed the name letter measure, they had to write down their full names (i.e., their first and last name). This was done after the experiment because we did not want to make their name letters more accessible by priming them with their own names. After being debriefed, they were thanked and paid. Participants were all ignorant with regard to the hypothesis under investigation.

## Results

In order to test the hypothesis that people have a tendency to overuse their name letters in texts, we conducted a one-sample t-test on the difference score, using zero as the test value. People did not use the letters of their whole name more than non-name letters,  $M_{\text{dif}} = 0.02$ ,  $t(85) = 0.70$ , *n.s.* However, when we only looked at the letters in the *first* name, we found a significant effect,  $M_{\text{dif}} = 0.19$ ,  $t(85) = 3.29$ ,  $p < .01$ . So participants used the letters in their first name more than average. Using only the letters in the last name, we did not find any effect,  $M_{\text{dif}} = -0.04$ ,  $t(85) = 0.90$ , *n.s.* We obtained a significant difference between the use of the name letters of the first name and the name letters of the last name,  $t(85) = 3.46$ ,  $p < .01$ . People used more name letters of their first name than of their last name in the texts. Subsequently we tested whether this name letter use is associated with the level of implicit self-esteem. This was not the case,  $Beta = .01$ ,  $t(85) = 0.08$ ,  $p > .90$ , *n.s.*

## Discussion

As we expected, again we found that name letters are overrepresented in written texts. People not only use their name letters more in important, scientific texts, but also use their name letters more in written texts about trivial everyday topics like a dishwasher. People's name letter preferences are reflected in an unconsciously



augmented use of these name letters expressed in different kinds of texts.

As we expected, Study 2.2 revealed only effects for first name letters and not for the last name or the whole name. As we mentioned before, the context is important for the name letter production effects. Clearly the texts that were studied in Study 2.1 and 2.2 are very different. The texts used in Study 2.1 were quite formal. In such formal publication settings authors are usually referred to by their last name. The texts in Study 2.2 concerned a more daily and informal topic and were written in an environment where one is usually referred to by one's first name. So, as a tentative explanation of our present results we propose that it depends on the nature of the text, whether it is more formal (last name) or more informal (first name), whether first name letters last name letters will be overused in language production.

In Study 2.2 we asked participants to write down a description of a dishwasher, so we manipulated the topic to write about. It is possible that this specific topic could have activated the use of specific words and therefore specific letters. Because participants had to think of a dishwasher, it is possible that certain words or specific letters associated with a dishwasher became more accessible. This increased accessibility of certain letters could have led to an augmented use of these specific letters. If these letters happen to be overrepresented in common (Dutch) first names, this might explain the effect. This co-occurrence explanation cannot be ruled out totally with our current data, but if we delete all dishwasher-related words from the analyses, we obtain the same results<sup>4</sup>. It is unlikely that this would be the case if the effect were fully caused by the co-occurrence of letters in names and dishwasher-related words. However, in Study 2.3, we will not manipulate the topic that participants will have to write on, so this way the current alternative explanation will be addressed anyway.

In Study 2.2 it turned out that implicit self-esteem did not moderate the preferential use of own name letters in language production. This suggests that preference for letters may not be the main driving force in the on-line production of written text. Before we expand on possible mechanisms underlying this effect, we will study preferential name letter use in a somewhat different set-up.

In Study 2.3 again, we again investigate the use of name letters in a language production task. While in the previous study we used two different types of text (formal vs. informal) to study name letter use, the present study focuses on potentially different effects as a function of word valence. Because the hypothesized enhanced name letter use is ultimately based on the assumed liking for own name letters (i.e., a positivity

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<sup>4</sup> The words that were deleted for these analyses are: wasmachine, was, afwas, wasmiddel, waspoeder, was verzachter, wasmand.

effect), it may also be the case that the enhanced name letter use preferentially occurs in positive words rather than negative words. In a way, within the constraints of the Dutch lexicon and letter composition of Dutch names, using more positive name letters in positive words and using less positive name letter words in negative words, may be interpreted as an evaluative congruency effect. We will investigate the use of (name) letters in positive and negative valenced words in Study 2.3.

### **Study 2.3**

In this study we investigated (name) letter use in positive and negative valenced words that were produced by participants during the experiment. We counted the letter frequencies in each word and we expected the participant's name letters to be overrepresented in the positively valenced words and underrepresented in negatively valenced words.

### **Method**

#### *Participants and Design*

Participants were 61 students of Leiden University, the Netherlands, who were paid € 1, -. We used a 2 (Valence: positive vs. negative) X 2 (Order: positive first vs. negative first) mixed design, using the number of (name) letters as the dependent variable. The valence factor was manipulated within Ss and the order was manipulated between Ss.

#### *Procedure*

Participants were welcomed and seated behind a PC in an individual cubicle. They were told that the instructions would be given by the computer. Participants were randomly assigned to one of the two Order conditions. They were asked to write down 5 words that have a positive meaning to the participant. Subsequently, participants were asked to write down 5 words that have a negative meaning. In order 2, participants first wrote down the negative words and then continued with the positive words. It was told that they should write down these words as quickly as possible without considering the words and that they had to write down words that have a positive or negative meaning to them personally and not to write down words that have a positive or negative meaning in general. By using this instruction, we tried to obtain variance in the words that were reported and to avoid the use of the standard positive and negative words that are commonly used in experiments with which many participants may have been familiar. As in Study 2.2, the word production phase was followed by a measure of the name letter

effect. Participants were asked to evaluate all 26 letters of the alphabet, that were presented on the computer screen in random order. Finally, we asked participants to write down their names.

We computed the name letter frequencies for both word categories separately. The procedure was identical to the one described in Study 2.1. We followed the procedure for the positive and the negative words separately. By averaging the 26 difference scores for every participant (obtained from the difference between the number of name letters and non-name letters), we obtained one difference score for every participant indicating the relative use of name letters in the produced positive words and one difference score for the negative words. None of the participants guessed the true nature of the hypothesis.

## Results

Because the variable 'Order' did not produce any significant effects, it was discarded from the analyses.

In order to test whether people more often use name letters in positive words and less often use name letters in negative words, we conducted a paired sample t-test, comparing the name letter use in negative words with the name letter use in positive words. We found an effect of word valence,  $t(60) = 5.93$ ,  $p < .01$ . People used more name letters in positive words ( $M_{\text{dif}} = 0.46$ ,  $SD = 0.77$ ) than they did in negative words ( $M_{\text{dif}} = -0.47$ ,  $SD = 0.88$ ).

To test whether the name letter frequency in positive words was larger than the mean letter frequency we conducted a one-sample t-test on the difference score, using zero as the test value. We found the expected effect that people use their name letters more often in positively valenced words than non name letters ( $M_{\text{dif}} = 0.46$ ,  $SD = 0.77$ ),  $t(60) = 4.71$ ,  $p < .01$ . We also found the effect for the letters in the first name ( $M_{\text{dif}} = 0.62$ ,  $SD = 1.51$ ),  $t(60) = 3.22$ ,  $p < .01$ ; and the last name ( $M_{\text{dif}} = 0.33$ ,  $SD = 1.16$ ),  $t(60) = 2.26$ ,  $p < .02$ .

For the negative words we found, as expected, the opposite effect: people used name letters less frequently than non name letters in negatively valenced words ( $M_{\text{dif}} = -0.47$ ,  $SD = 0.88$ ),  $t(60) = -4.19$ ,  $p < .01$ . The same effects were found for the letters in the first name ( $M_{\text{dif}} = -0.70$ ,  $SD = 1.74$ ),  $t(60) = -3.13$ ,  $p < .01$ ; and the last name ( $M_{\text{dif}} = -0.54$ ,  $SD = 1.16$ ),  $t(60) = -3.16$ ,  $p < .01$ .

In subsequent tests, it was examined whether implicit self esteem moderates the obtained effect. This was not the case: the level of implicit self-esteem did not predict name letter use,  $Beta = -.01$ ,  $t(60) = -0.10$ ,  $p > .90$ , *n.s.*

## Discussion

In the present study we found that people show an overuse of name letters in words with a positive meaning. Interestingly, the effect is reversed for negative words: People tend to avoid name letters in words with a negative meaning.

As argued in our introduction of Study 2.3, the over-occurrence of name letters in positive words, and their under-occurrence in negative words may reflect an evaluative congruency effect. Alternatively, it could be that even in the production of language people are subject to self-enhancement and –protection processes. That is, people may be eager to use their name letters in positive words, but reluctant to use them in negative words to enhance or protect their self-esteem respectively.

However, because word production in spoken and written language seems a predominantly automatic process (Levelt, 1989), the strategic use of name letters in positive words and their strategic avoidance in negative words, seems implausible. Although it is still possible that self-enhancement and self-protection effects operate at an automatic level, the occurrence of unconscious congruency effects may constitute a more plausible explanation for the present findings.

As we have argued, we believe that the context of the text is relevant for which name letters are used more (first or last name). In a more formal context people use more last name letters (Study 2.1) and in a more informal context, people use more first name letters (Study 2.2). The data in Study 2.3 are consistent with this idea. The context in this study was, like in Study 2.2 informal, so that we expect the effects to be the strongest for first name letters. Indeed, the difference between name letter use in positive and negative words was stronger for the letters in the first name than for letters in the last name,  $t(60) = 1.43$ ,  $p < .06$ .

## General Discussion

Taken together the empirical findings in this chapter warrant the conclusion that people display an overuse of name letters in written texts. The enhanced use of own name letters was obtained in scientific texts (Study 2.1), in informal stories produced in the lab (Study 2.2), and in the generation of positive words (Study 2.3). Study 2.3 showed, as expected, that the overuse of own name letters was confined to words with a positive valence while own letters were underused in negatively valenced words. So far, these three studies are the only studies that demonstrated preferential name letter use in written language production.

It is interesting to ponder on the underlying mechanism behind these observed effects. Research demonstrated that people show an unconscious bias for positive

self-relevant memories (Sedikides & Strube, 1997) and this bias might also affect the memory for (words with) name letters. It is possible that people selectively remember words containing name letters. This memory bias might lead to the bias in letter production that we found in the present research.

In Study 2.3 however, we found that the name letter production bias is restricted to positive words. People only use more name letters in positive words and they avoid name letters in negative words. The fact that word valence is a strong moderator of name letter use must be taken into account in the explanation for these phenomena. It is conceivable that word selection is subject to an automatic implicit categorization process. Positive words – or words that one prefers to relate to the self – tend to be preferentially sampled from the stock containing name letter words. Conversely, negative words – preferentially non-me related – may be preferentially selected from the set of words that contain non-name letters.

People may use such an unconscious selection process as a way of self-enhancement. There is evidence from other domains of research that selection processes may be used to support positive self-associations. For instance, Beggan (1992) found that people display self-enhancing biases when making judgments about objects they own. Cialdini and colleagues showed that people associate themselves with successful others in order to feel good about themselves (BIRGing; Cialdini, Borden, Thorne, Walker, Freeman, & Sloan, 1976; Cialdini & Richardson, 1980). Social Identity Theory (Tajfel & Turner, 1986) also states that making positive judgments about our own group (and is therefore part of our identity) makes us feel better. Our name letters are part of our identity and associating them with positive stimuli (i.e., positive words) makes people feel good about themselves. So the preferential overproduction of name letters in positive valenced words can be construed as evidence for an unconscious self-enhancement strategy.

No relation was found between implicit self-esteem and the strength of preference for name letter usage in texts. Possible explanations for the absence of this relation are given in Chapter 5, the general discussion.

## CHAPTER 3

# WHY YOU LIKE WHAT REMINDS YOU OF YOU: IMPLICIT SELF-ESTEEM MODERATES LIKING FOR SELF-RELATED PRODUCTS





Indeed, a large body of research has shown that name letter preferences may affect all kinds of decisions, ranging from everyday consumer choices to major life decisions (Brendl et al., 2005; Pelham, Carvallo, et al., 2005; Jones et al., 2004; Pelham et al., 2002). For instance, in one of the studies of Brendl and colleagues (2005) the names of tea packages were manipulated in such a way that the brand name of the tea either started with the first three letters of the participant's first name (e.g., 'Mar' for Martijn) or with three non-name letters (e.g., 'Fes'). When asked to take one of the tea packages home, participants were more likely to choose the tea with a brand name containing their name letters (e.g., 'Maredsous'). Furthermore, Pelham et al. (2002) showed in a series of studies that ostensibly irrelevant symbols like name letters or birthday numbers may implicitly influence major life decisions. These studies revealed that name letter preferences may influence to which place or street people move (e.g., Karen lives in Katendrecht on Kannerweg), which jobs they choose (e.g., Edward becomes an editor) and even whom they are going to marry (e.g., Esmée marries Esmond). To sum up, implicit egotism seems to affect various preferences and (important) decisions.

## PROCESSES UNDERLYING IMPLICIT EGOTISM EFFECTS

The term *implicit egotism* refers to the effect that people's positive associations about themselves spill over to their evaluations of self-relevant objects. Effects of implicit egotism have been obtained for various self-relevant objects and symbols. For example, several studies have shown that people particularly like their own name letters (Nuttin, 1987). Furthermore, people seem to fancy their own birthday numbers (Jones et al., 2004; Kitayama & Karasawa, 1997; Pelham et al., 2002; Koole, Dijksterhuis, & Van Knippenberg, 2001).

Recently, scholars have focused on the processes that are proposed to underlie implicit egotism effects. For example, Brendl et al. (2005) showed effects of name letter branding when participants focused on their feelings, but not when they focused on their reasons for choosing the brands (see also Koole et al. 2001). These results suggest that intuitive responding facilitates implicit egotism effects. Another issue concerns the implicitness of the egotism effects. Some effects that were described above may actually have involved explicit rather than implicit processes. For instance, when Jack is about to decide to move to Jacksonville, he may very well be aware of the name resemblance. In one of their experiments, Jones et al. (2004) illustrated the *nonconscious* nature of implicit egotism effects by subliminally linking a number (e.g., 16) to the participant's first name. In a subsequent phase of the experiment, the (now)



self-relevant number or a control number was placed on a woman's jersey. Results showed that (male) participants were more attracted to the woman when the number that was displayed on her jersey had been nonconsciously coupled with the self. Together, by illustrating the intuitive and nonconscious nature of implicit egotism, these studies advanced our understanding of processes underlying this phenomenon.

However, to our view one of the most crucial variables related to the theory of implicit egotism has, as yet, to be systematically studied and empirically demonstrated. This variable concerns the level of positivity associated with the self. Most theorists argue that implicit egotism is derived from positive affect related to the self. For example, Pelham and colleagues (2002) noted that *"people's automatic associations about themselves may influence their feelings about almost anything that people associate with the self"* (p. 470). Then, given the centrality of the concept of positivity of self-associations to the theory of implicit egotism, an important next step would be to test whether implicit egotism effects are moderated by individual differences in levels of positive self-associations. The present two studies aimed to provide such a test by linking implicit egotism effects to individual differences in implicit self-esteem. More specifically, we aimed to show that preferences for objects referring to the self are observed for individuals with high implicit self-esteem, but not for individuals with neutral or low self-esteem.

## ATTITUDES TOWARDS THE SELF

In line with recent treatments, we define implicit self-esteem as an attitudinal construct (Dijksterhuis, 2004; Greenwald & Banaji, 1995). That is, consistent with general ideas concerning the nature of attitudes, implicit self-esteem can be conceptualized as the association between the self and its (positive or negative) evaluation. In support of this notion, Dijksterhuis (2004) showed that subliminally linking self-related words (like I or me) with positive words (e.g., good, great) enhances scores on several implicit self-esteem measures. Thus, if a person is confronted with a stimulus or an object that activates the self, the positive or negative evaluation towards the self may become automatically activated and bias subsequent judgments towards that stimulus or object (cf. Fazio, 1990, 2001). This approach also has consequences for understanding implicit measures of self-esteem.

In their influential paper, Bosson et al. (2000) examined several measures of implicit self-esteem. One striking result of their study concerned the weaknesses of the statistical properties (e.g., test-retest reliability) of various implicit self-esteem measures. However, one of the implicit self-esteem measures with desirable properties is the name

letter effect (Nuttin, 1985). Therefore, we use the name letter measure in this paper to measure participants' implicit self-esteem.

Koole and Pelham (2003) suggest that the strength of the name letter effect constitutes a valid measure of implicit self-esteem. This idea is corroborated by several findings. Firstly, people strongly identify with their names (e.g., Bugental & Zelen, 1950; Dion, 1983), and name letters are therefore strongly related to the self. Thus, while assessing the name letter effect, participants evaluate self-relevant stimuli. Furthermore, these evaluations of name letters can be considered implicit, because people have no awareness of their preferences for their own name letters (Dijksterhuis, 2004; Koole, Smeets, Van Knippenberg, & Dijksterhuis, 1999; Nuttin, 1985; Wentura et al., 2005). Strong evidence for the idea that name letters are automatically positively evaluated was provided by Wentura and colleagues (2005). Using an affective priming paradigm, they showed that subliminal primes of participants' initials facilitated responses to positive words and inhibited responses to negative words. Furthermore, Dijksterhuis (2004) showed that nonconsciously enhancing implicit self-esteem by means of evaluative conditioning, can boost name letter evaluations. A final reason for the use of the name letter effect as a measure of implicit self-esteem is that the name letter effect cannot be accounted for by a simple mere exposure explanation (Jones et al., 2002; see also Chapter 1).

In sum, considering these observations it seems reasonable to assume that the name letter effect is a valid and reliable indicator of the level of positivity that is associated with the self. In addition, Gawronski, Bodenhausen, and Becker (2007) also successfully used this method to measure implicit self-esteem for testing its influence on ownership effects. We expect that this measure may also predict other effects of implicit egotism, such as people's liking for products with brand names starting with their name letters. In contrast, explicit measures of self-esteem are less likely to reliably tap the level of positivity that is associated with the self, because responses are likely to be distorted as a result of all kinds of self-serving biases. When it comes to self-attitudes, people are motivated to alter their automatically activated attitude, and report a different (e.g., more positive) one. Indeed, the relation between implicit and explicit self-esteem measures is generally low (e.g., Bosson et al., 2000; Koole et al., 2001). Because of these dissociations between implicit and explicit measures, we do expect implicit, but not explicit, self-esteem measures to predict implicit egotism effects.

## THE PRESENT RESEARCH

The present research aimed to show that implicit self-esteem moderates implicit egotism effects. We expect that low implicit self-esteem individuals evaluate self-relevant objects in a less positive manner than high implicit self-esteem individuals. Self-relevance was manipulated by means of two distinct procedures. In Study 3.1 objects were made self-relevant by using the first two letters of participants' names, in Study 3.2 birthday numbers were added to these name letters to activate the self. Implicit egotism effects were investigated by measuring the influence of the self-relevance manipulation on evaluations of products, namely a bicycle in Study 3.1 and a DVD-player in Study 3.2.

### Study 3.1

#### Method

##### *Overview*

Participants were exposed to an advertisement of a bicycle. Within the self-relevance condition, the name of the bike started with the first two letters of the participant's first name. Within the control condition the bike's name started with two non-name letters. Subsequently, participants evaluated the bike. Afterwards, implicit self-esteem was measured by the name letter effect.

##### *Participants and Design*

Participants were 32 undergraduates of Radboud University Nijmegen, receiving € 1 for their participation. In order to assure that the bike was relevant for everybody, only participants were included who were riding a bike on a regular basis. As a consequence the data of one participant were excluded from the analyses.

The study consisted of a 2 (Self-reference: self-relevant vs. control) X Implicit Self-esteem between-subjects design. Participants were randomly assigned to one of the two self-reference conditions. Implicit self-esteem was used as a continuous factor.

##### *Procedure*

Participants registered by writing their name on a registration form. Subsequently, the experimenter surreptitiously entered the participant's name in the computer and started the program. Participants were seated behind the computer and were told that they took part in a study on consumer behavior. All instructions were presented via the computer screen.

Participants viewed an advertisement of a bicycle (see Figure 1), containing some information about the bike, a picture of it, and the name of the bike. Self-reference of the bike was manipulated by altering the first letters of the brand name of the bike (Brendl et al., 2005). In the self-relevant condition, the name of the bike started with the first two letters of the participant's first name. In the control condition, the name of the bike started with two letters that were *not* part of the participant's first or last name. The stem of the bike's name was identical for both conditions, namely "-itraco". This name could easily be combined with all the possible (Dutch) combinations of first two letters, without creating any unpronounceable names. So, if a participant's name was Harrie Smeets, the name of the bike in the self-relevant condition would be *Haitraco* and in the other condition, this would for example be *Zuitraco*.

Figure 1: The ad of the bicycle



After reading the advertisement, participants responded to four different items measuring the evaluation of the bike. The items included questions concerning the quality and convenience of the bike. Furthermore, we included items with regard to the intention to buy the bike and to recommend the bike to others. Participants provided their answers on 7-point scales. The picture and name of the bike were displayed on the screen during these questions. The four items were found to be internally consistent

( $\alpha = .88$ ). We computed general bike evaluation scores by averaging the score of the items.

After the product task, the level of implicit self-esteem was assessed using a name letter measure, which was introduced as a study of intuitive judgments of simple stimuli (Nuttin, 1985; see also Koole et al., 1999). Participants were asked to intuitively evaluate letters of the alphabet as quickly as possible on a 5 point scale (1 = not at all beautiful to 5 = very beautiful). The 26 letters of the alphabet were presented in random order. The name letter effect was calculated using a procedure proposed by Kitayama and Karasawa (1997). Firstly, we computed 26 norm evaluation scores, by calculating the mean evaluation of each letter, only using the letter evaluations of people whose names *did not* contain this letter. Then, for every letter of the participant's name, norm evaluation scores were subtracted from the participant's evaluation score of the name letters. The name letter effect is the average of these difference scores.

After the letter evaluation part, participants were thanked, debriefed and paid. None of the participants were able to guess the hypotheses being tested, nor were participants aware of the presence of their name letters in the advertisement.

## Results

### *Preliminary analyses*

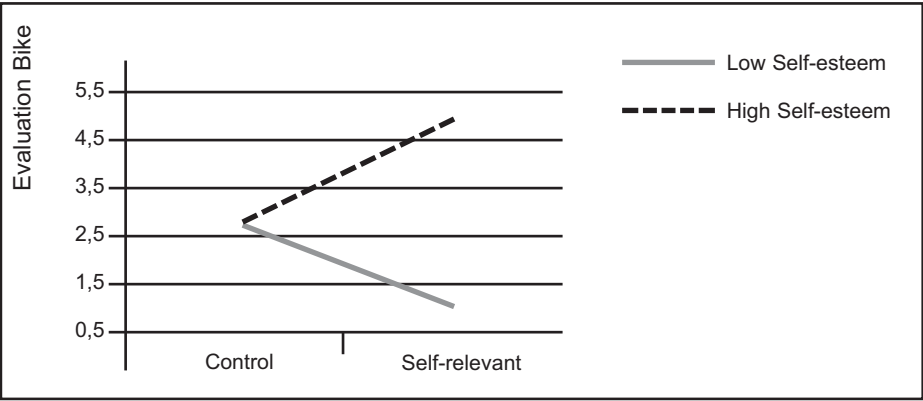
The name letter effect was replicated in this study, that is, the mean score across participants was significantly above zero ( $M = .29$ ,  $SD = .47$ ),  $t(30) = 3.43$ ,  $p < .01$ . The strength of the name letter effect was not influenced by Self-reference condition,  $t < 1$ , *n.s.*

### *Implicit self-esteem and implicit egotism*

To test our hypothesis concerning the relation between self-esteem and implicit egotism, the evaluation of the bike was regressed on Implicit Self-esteem (standardized name letter effect scores), Self-reference (dummy coded, -1 = control condition, 1 = self-relevant condition) and the Implicit Self-esteem X Self-reference interaction term. This analysis revealed no significant main-effects (both  $t$ 's  $< 1$ ). However, as predicted, the Implicit Self-esteem X Self-reference interaction term was significantly related to bike evaluation,  $Beta = .35$ ,  $t(27) = 2.03$ ,  $p < .05$ . Simple slope analyses (Aiken & West, 1991) revealed that self-reference was marginal significantly related to evaluation scores for high implicit self-esteem participants,  $Beta = .47$ ,  $t(27) = 1.89$ ,  $p < .07$ , but not for low implicit self-esteem participants,  $Beta = -.25$ ,  $t(27) = -1.00$ ,  $p > .30$ , *n.s.* Importantly, implicit self-esteem was significantly related to evaluation scores within the self-relevant

condition,  $Beta = .71$ ,  $t(27) = 2.72$ ,  $p < .01$ , but not within the control,  $Beta = .00$ ,  $t(27) = 0.01$ ,  $p > .99$ , *n.s.* So, the self-relevant bike was evaluated more positively by people high in implicit self-esteem than people low in implicit self-esteem. In the control condition, we did not find an effect of implicit self-esteem. Figure 2 shows the nature of the effects.

Figure 2: The evaluation of the bike as a function of Self-esteem and Self-reference



### Discussion

The results of the first experiment confirm our predictions. Evaluations of a self-referring object were found to be more positive among high self-esteem individuals compared to low self-esteem individuals. These effects are in line with the idea that the degree of positivity associated with the self moderates the strength of implicit egotism effects.

Although the results of Study 3.1 are promising, there are some issues to be solved. Are the results really related to self-esteem? One could argue that participants who liked the first two letters of their name also like a product that starts with the same two letters. Then, our results may be explained by the mere liking of letters, and has nothing to do with self-esteem. In order to show that the results concern influences of self-esteem rather than being a game of funny letters we conducted an additional analysis. If our effects were due to the sheer liking of the first two letters of the bike's name, the evaluation of the first two letters of the name of the control bike should also be correlated with the evaluation of that bike. However, these two variables were unrelated within the control condition,  $r = .37$ ,  $p > .20$ , *n.s.* Although this correlation is non-significant, we conducted another additional analysis to provide a more stringent test

to exclude this alternative explanation.

As we posit that the first two letters of the name were solely used to cue self-related processes in order to activate the self-attitude, the evaluation of these two letters in itself should not be crucial with regard to the obtained effects. Therefore, we again calculated the name letter score, but this time leaving out the evaluations of the first two letters of the first name. This analysis revealed the same pattern of results as those reported above, although the interaction term of Name letter (minus the first two letters) evaluation  $\times$  Self-reference is less strong. One should expect these effects to be a little weaker, because two letters are discarded from the analyses. However, the pattern of results is the same and confirms our hypothesis. This analysis again revealed no significant main-effects (both  $t$ 's  $< 1$ ). However, as predicted, the Name letter (minus the first two letters) evaluation  $\times$  Self-reference interaction term was marginal significantly related to bike evaluation,  $Beta = .32$ ,  $t(27) = 1.78$ ,  $p < .08$ . Simple slope analyses (Aiken & West, 1991) revealed that self-reference was marginal significantly related to evaluation scores for high Name letter (minus the first two letters) evaluation participants,  $Beta = .45$ ,  $t(27) = 1.71$ ,  $p < .10$ , but not for low Name letter (minus the first two letters) evaluation participants,  $Beta = -.21$ ,  $t(27) = -0.83$ ,  $p > .40$ , *n.s.* Importantly, Name letter (minus the first two letters) evaluation was significantly related to evaluation scores within the self-relevant condition,  $Beta = .65$ ,  $t(27) = 2.32$ ,  $p < .03$ , but not within the control condition,  $Beta = .00$ ,  $t(27) = 0.01$ ,  $p > .99$ , *n.s.* Together, these additional analyses corroborate our conclusion that implicit self-esteem facilitates the liking of objects that refer to the self.

In Study 3.2 we aimed to replicate these findings, using a different product. Moreover, we strengthened the self-relevance manipulation by using birthday-numbers in addition to name letters as part of the product name. Finally, in Study 3.2 implicit self-esteem was measured before participants were confronted with the product, and measures of explicit self-esteem were included.

## Study 3.2

### Method

#### Overview

During a preliminary session one week before the experimental session, implicit and explicit self-esteem were assessed. In the experimental session, participants were exposed to an advertisement of a DVD-player. In the self-reference condition, the serial name of the DVD-player started with the first two letters of the first name of the

participant. Furthermore, the name also included the participant's birthday number. In the control condition, the name was unrelated to the participant's name or birthday number. Subsequently, participants evaluated the DVD-player.

### *Participants and Design*

Participants were 78 undergraduate students of Radboud University Nijmegen, who were paid € 2 for their participation. The study consisted of a 2 (Self-reference: self-relevant vs. control) X Implicit Self-esteem between subjects design. Participants were randomly assigned to one of the self-reference conditions. Implicit self-esteem was used as continuous independent factor.

### *Procedure*

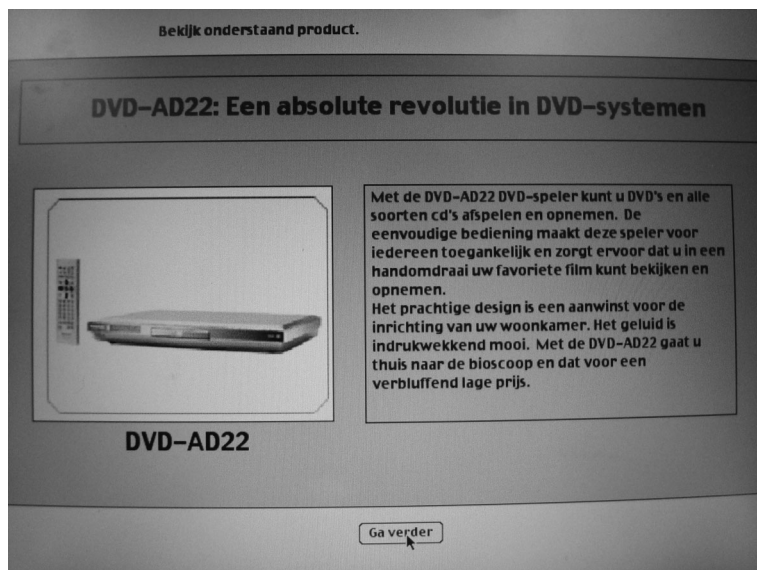
The procedure of Study 3.2 was almost identical to the one in Study 3.1. However, instead of finishing the experiment with the name letter task, participants started Study 3.2 with the implicit self-esteem measure, to make sure our self-reference manipulation could not influence participants' levels of implicit self-esteem.

After this, they completed a Dutch version of the Rosenberg's (1965) Trait Self-esteem Scale (Holland, Meertens, & Van Vugt, 2002; Smeets & Holland, 2002), and the Heatherton and Polivy's (1991) State Self-esteem Scale to measure explicit self-esteem. The Trait Self-esteem scale consisted of 10 items, e.g., "In general I feel good about myself", (1 = strongly disagree, 9 = strongly agree). The State Self-esteem Scale consisted of 20 items, e.g., "I feel satisfied with the way my body looks right now", (1 = strongly disagree, 9 = strongly agree). After completing this task participants made an appointment for a second session and left the lab.

After a week, participants returned and continued the experiment with the product evaluation task. The product evaluation task was basically the same as in Study 3.1, only this time the advertisement was about a DVD-player, and we added a number to the product's name (see Figure 3). In the self-relevance condition, the name of the DVD-player consisted of the word "DVD", followed by the two letters of the participant's first name and the participant's birthday number. This birthday number was added to make the self-relevance manipulation stronger. In the control condition, two letters that were no part of the participant's name and a two-digit number that was different from the birthday number followed the stem of the name of the product "DVD". For example, consider a participant whose first name was Mariëlle, born on May 14, 1979. The name of the DVD-player in the self-relevant condition would be DVD-Ma 14 and in the control condition the name would for instance be DVD-Pu 30.



Figure 3 : The ad of the DVD-player



After reading the advertisement, subjects responded to four questions about the DVD-player, while the picture and the name of the player were displayed on the screen (e.g., "How do you like the design of the DVD-player? 1 = not attractive at all to 7 = very attractive). The DVD evaluation score was calculated by the mean of the four evaluation items ( $\alpha = .82$ ). Finally, participants were thanked, debriefed and paid. None of the participants were able to guess our hypotheses, nor were they aware of the self-relevance of the letters and/or numbers in the advertisement.

## Results

### *Preliminary analyses*

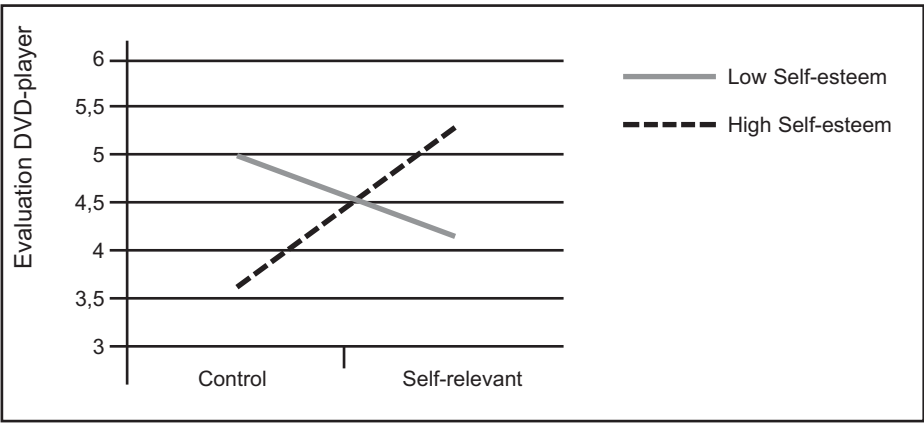
The name letter effect was again replicated, i.e., the mean score was above zero ( $M = 0.40$ ,  $SD = 1.11$ ),  $t(77) = 3.17$ ,  $p < .01$ . Neither the name letter effect, nor the explicit self-esteem scales differed between the experimental conditions,  $t < 1.8$ , *n.s.*

### *Implicit self-esteem and implicit egotism*

The evaluation score of the DVD-player was regressed on Implicit Self-esteem, Self-reference and the Implicit Self-esteem X Self-reference interaction term. We found

no main effects (both  $t$ 's < 1). However, the Implicit Self-esteem X Self-reference interaction was significant,  $Beta = .41$ ,  $t(74) = 2.46$ ,  $p < .02$ . Simple slopes analyses showed that self-reference was significantly related to the evaluation scores of the DVD player among high implicit self-esteem participants,  $Beta = .42$ ,  $t(74) = 2.57$ ,  $p < .02$ , but not among low implicit self-esteem participants,  $Beta = -.18$ ,  $t(74) = -1.04$ ,  $p > .30$ , *n.s.* Within the control condition, implicit self-esteem was marginally significant related to the evaluation of the DVD-player,  $Beta = -.38$ ,  $t(74) = -1.94$ ,  $p < .06$ . Within the self-relevance condition, the relation with the evaluation scores did not reach significance,  $Beta = .22$ ,  $t(74) = 1.52$ ,  $p < .13$ . The effects are shown in Figure 4. Apparently, low self-esteem participants liked the control product somewhat more than high self-esteem participants ( $p < .06$ ). More importantly, high self-esteem people liked the DVD-player more in the self-relevance than in the control condition ( $p < .02$ ).

Figure 4: The evaluation of the DVD-player as a function of Self-esteem and Self-reference



Explicit self-esteem was also used in these analyses, that is, the same regression analysis was performed as above with explicit self-esteem as predictor variable instead of implicit self-esteem. No significant effects were obtained, all  $t$ 's < 1.1, *n.s.*

Again, we tested whether the results could be explained by sheer letter evaluations. As in Study 3.1, the evaluation of the first two letters that were used in the control product was unrelated to the evaluation of that product,  $r = .03$ ,  $p > .80$ , *n.s.* Furthermore, we tested whether the same results would be obtained if the implicit

self-esteem was calculated leaving out the letters that were used in the self-relevant DVD-player. Indeed, these alternative analyses did not alter the nature of our results.

## **Discussion**

The second study provided further evidence for the hypothesis that preferences for self-related objects are moderated by level of implicit self-esteem. We found that high self-esteem participants liked the product with a brand name starting with their own name letters more than the control product.

## **General Discussion**

The present research investigated whether implicit egotism effects, namely liking for self-relevant objects, are dependent on people's implicit self-evaluations. Across two studies we showed that implicit evaluations of the self indeed moderate implicit egotism effects. Products were liked better by high self-esteem participants than low self-esteem participants when the brand name of that product included name letters (Study 3.1) or name letters and birthday numbers (Study 3.2). In other words, products that referred to the self were liked better by individuals who have positive implicit self associations.

As we used name letters both to measure implicit self-esteem and to manipulate self-reference of the product it is important to show that our findings are not due to (trivial) letter evaluations, which have nothing to do with implicit egotism. As the term already implies, implicit egotism specifically emphasizes the spilling over of positive self-evaluations to things referring to the self, instead of the spilling over of positive evaluations in general. Indeed, our analyses showed that the letter evaluations of the first two letters of the control product were unrelated to the evaluation of the control product, and leaving out the letters that were used in the advertisement in calculating the name letter effect did not change the pattern of results. These findings show that it is not the evaluation of letters in general that is driving our effects. Thus, the present results provide evidence for the implicit egotism explanation that name letters function as cues for self-relevant processing, as a result of which levels of implicit self-esteem may influence the evaluation of products that refer to the self.

With these findings, we have demonstrated that the level of positivity associated with the self indeed explains implicit egotism effects, thereby confirming a central aspect of implicit egotism literature, namely that implicit egotism is derived from positive affect related to the self. Although lying at the core of implicit egotism theory, systematic empirical tests of the role of implicit self-esteem have been lacking until

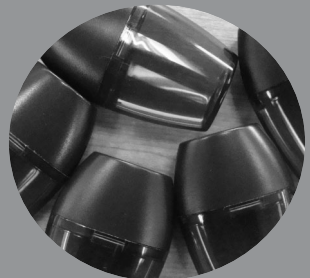
recently. Gawronski et al. (2007) already demonstrated the crucial role of implicit self-esteem in the mere ownership effect, by showing that ownership of an object only leads to higher implicit liking for the object for high self-esteem people. Importantly, the present two studies in this chapter show that the results are not confined to ownership effects, but also work for evaluations of objects that are linked to the self by means of an association between the brand name and one's own name letters. Furthermore, we obtained effects on explicit liking scales, whereas Gawronski et al. (2007) focused on implicit liking effects.

In this chapter we demonstrated that implicit self-esteem plays a moderating role in the evaluation of self-relevant objects. This self-relevance was manipulated by using the participants name letters or not. One could say that if these effects are as robust as we argue, then these effects should also be found when using other self-reflexive objects in which no name letters are involved.



## CHAPTER 4

# TRADING THE SELF: IMPLICIT SELF-ESTEEM MODERATES THE ENDOWMENT EFFECT





Suppose a friendly person comes up to you and gives you a pen. You think it is great that you are now the owner of the pen. A few minutes later someone else walks up to you and asks if she can buy your pen. For what price would you sell it? Probably, you would want more money in return for this pen, than you would have been willing to pay for it if you did not own it.

Research on the endowment effect suggests that people ascribe more monetary value to an object once they own it and are requested to sell it (referred to as the willingness to accept; WTA), compared to the money people want to spend for the same object if they are not yet the owner (willingness to pay; WTP). Endowment effects constitute an important issue in both economics and psychology and have been studied in many different contexts, ranging from, e.g., markets for goose hunting permits (Bishop & Heberlein, 1979) to markets for trading bottles of wine (Van Dijk & D. van Knippenberg, 1998).

Despite the vast amount of empirical evidence for the endowment effect, the exact mechanisms that underlie it are still a matter of debate. In the economic literature, endowment effects are usually explained in terms of loss aversion (Kahneman & Tversky, 1984). Loss aversion refers to the psychological consequences of loss: the loss of an object that you own outweighs the gain of acquiring the same object if you did not own it. In other words: *Losses loom larger than gains* (Brenner, Rottenstreich, Sood, & Bilgin, 2007; Thaler, 1980; Kahneman, Knetsch, & Thaler, 1990). This could explain why people want more money for selling an owned product (WTA) compared to the amount of money that they want to spend for buying the same product that is not owned (WTP).

However, in addition to loss aversion, researchers have argued that the endowment effects may be influenced by a psychological process referred to as the mere ownership effect (Ortona & Scacciati, 1992; van Dijk & van Knippenberg, 1996; Hoorens, Remmers, & van de Riet, 1999). Research on the mere ownership effect (Beggan, 1992) showed that people evaluate objects more favorably once they own these objects. Considering that the endowment effect is related to selling an object that one owns versus buying an object which one does not own, the mere ownership effect must be highly relevant for the analysis of the endowment effect. However, empirical evidence for linking the mere ownership to the endowment effect is scarce.

The only study that empirically addressed the role of mere ownership in research on the endowment effect is the study of Hoorens et al. (1999). They independently manipulated target (self versus another person) and type of transaction (buying versus selling). Two main effects were obtained. Firstly, more money was assigned to selling situations compared to buying situations, providing evidence for the



loss aversion effect. Secondly, more money was assigned when participants had to make buying or selling decisions for themselves rather than for another (comparable) individual. The latter result was interpreted as evidence for the role of ownership in the endowment effect. However, it is not quite clear whether the studies of Hoorens and colleagues (1999) also speak to other studies on the endowment effect, as in their studies target, i.e., making a judgment for the self or for another person, was always manipulated within subjects. In other words, the salience of the self-other distinction may have contributed to the bias in their studies and it is therefore not clear whether mere ownership biases would also occur in situations in which no reference is made to self-other differences.

In order to provide evidence for the role of ownership in the endowment effect, we approached the idea from a quite different angle. In two studies we aim to show that that endowment effects are based on mere ownership effects because both processes depend on individual differences in implicit self-esteem.

## **MERE OWNERSHIP EFFECTS AND POSITIVE SELF-ASSOCIATIONS**

Research on the mere ownership effect (Beggan, 1992) showed that people evaluate an object more favorably once they own it. Several studies revealed evidence for the mere ownership effect. (Beggan, 1992; Belk, 1988; Heider, 1958; James, 1890/1950; Tuan, 1980). The mere ownership effect can be considered to be an example of implicit egotism effects. Across various domains it has been demonstrated that people's positive self-associations may spill over to objects that are linked to the self, such as name letters (Nuttin, 1987; Koole et al., 2000) or birthday numbers (Kitayama & Karasawa, 1997). Consistent with these other demonstrations of implicit egotism effects, once an object is merely owned it becomes linked to the self. As a consequence, positive self-associations could enhance the evaluation of objects once these are owned.

Importantly, this account of the mere ownership effect also implies that the strength and the direction of the mere ownership effect depend on individual differences in self-associations. That is, the mere ownership effect should be relatively strong among individuals with positive self-associations, but weak, absent or even reversed for individuals with negative self-associations. In other words, the mere ownership effect depends on spill-over effects of self-evaluations, and therefore individuals will only like owned objects if they like themselves, but not if they dislike themselves. In line with these ideas, Gawronski et al. (2007), using reaction time measures, showed that evaluative associations with regard to owned objects could be predicted by evaluative associations concerning the self.

Thus, one way to show that the endowment effect is partly based on the mere ownership effect would be to demonstrate that the endowment effect is stronger for individuals with positive self-associations compared to individuals with negative self-associations. This idea has never been studied. Although Gawronski and colleagues were able to show consistency effects of self-evaluations and owned object-evaluations, the object evaluations were measured on an implicit level. However, the endowment effect consists of the explicit assignment of monetary value to an object.

The crucial question, then, is whether people derive their explicit evaluations from implicit self-anchoring processes. Although correlations between implicit and explicit evaluations have been reported across several issues, the absence of such correlations is at least as common (see for an overview Gawronski & Bodenhausen, 2006; Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005). Therefore, while the link between implicit self-esteem and implicit product evaluations is already empirically established, the relationship between implicit self-esteem measures and explicit product evaluations and explicit reports of monetary value still has to be demonstrated.

## **THE PRESENT RESEARCH**

In the present research we aim to show that the mere ownership effect underlies the endowment effect by testing the hypothesis that the endowment effect will be stronger among individuals with positive self-associations than among individuals holding negative self-associations.

If mere ownership and, hence, differences in self-associations are important variables in explaining the endowment effect, a first important step would be to demonstrate differences between explicit evaluations of possessed versus non-possessed objects as a function of implicit self-esteem. In Study 4.1, we studied the effects of implicit self-esteem on object evaluations in two conditions. In the possession condition we gave the object to the participant for a present, while in the control condition we did not. Subsequently, we asked participants to explicitly evaluate the object. We predicted that implicit self-esteem was related to object evaluations in the possession condition, but not in the control condition. Study 4.2 followed up on this first study, by directly testing the endowment effects as a function of differences in self-esteem. In Study 4.2 we first measured implicit self-evaluations. One or two weeks later, participants returned to the laboratory and did or did not receive a pen as a gift. In the possession condition, participants were asked for how much money they were willing to sell this pen. In the control condition, they were asked how much money they wanted to pay for this pen. We expected that implicit self-esteem would affect the value of

participants in the possession condition, but not in the control condition.

## **Study 4.1**

### *Overview*

In this study, a measure of implicit self-esteem was administered in a preliminary session. In the experimental session, participants explicitly evaluated an object (a pen) that was either given to them (possession condition), or not (control condition).

### **Method**

#### *Participants and Design*

Participants were 99 undergraduate students from Radboud University Nijmegen, who were paid € 3, -. The study consisted of a 2 (Ownership: Possession vs. control) X Implicit Self-esteem between-subjects design. Participants were randomly assigned to one of the two Ownership conditions. Implicit self-esteem was used as a continuous factor. The dependent variable was the evaluation of the pen.

#### *Procedure*

This study consisted of two parts, a pre-measure and an experimental session on a computer. In the pre-measure we used a paper-and-pencil version of the name letter measure, in which participants had to indicate as quickly as possible how attractive they found each letter of the alphabet presented in random order. They could do so on a 9 point scale ranging from 1 = not beautiful at all to 9 = very beautiful. The method for calculating the name letter effect was adapted from Kitayama and Karasawa (1997). Generally speaking, participants preferred name letters above non-name letters ( $M_{\text{dif}} = 0.30$ ,  $SD = 0.90$ ),  $t(98) = 3.35$ ,  $p < .01$ . In the experiment however, we were interested whether difference in this self-esteem measure could predict object evaluations.

After the name letter measure, participants filled in the Rosenberg Trait Self-esteem Scale (Rosenberg, 1965), which consisted of 10 items. After finishing the latter task, participants made an appointment with the experimenter for the second session.

Approximately one week later, participants returned to the laboratory where they were seated in an individual cubicle behind a computer. The experimenter told them that further instructions would be presented on the computer screen. Participants started with a product evaluation task. The procedure of this task was adapted from Beggan (1992). Next to the computer, we placed a small box containing three products; a pen, a pencil

sharper, and a note block (see Figure 5). Participants were asked to take these products out of the box and place them in front of them on the table. Because earlier studies showed substantial differences in price estimates between participants (see Beggan, 1992), we told the participants that all three products had a value between € 0.99 and € 1.09, to prevent the participants' price estimates to influence their product evaluations.

*Figure 5: The products that were to be evaluated*



The participants in the possession condition were told that they received one of the three products as a present in gratitude for their participation in the experiment. The computer randomly determined the product they received. In fact this gift product was always the pen. After this, participants continued with the evaluation part. Participants in the control condition were not told anything about receiving a gift and continued with the product evaluation directly after taking the products from the box.

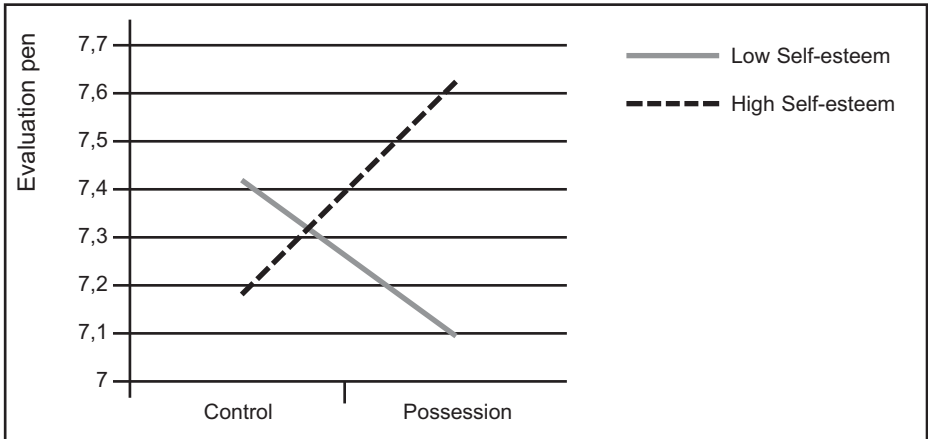
The product evaluation part consisted of six questions; two questions about each of the three products. These questions were “How do you evaluate the pen/pencil sharper/note block? (1 = very negatively to 9 = very positively) and “How attractive do you find the pen/pencil sharper/note block?” (1 = very unattractive to 9 = very attractive). The answers to the two questions asked about the pen were averaged in order to get a mean evaluation score of the pen ( $\alpha = .80$ ). After these six questions, participants were asked

to put the products back into the box, except for the participants in the possession condition who were allowed to keep the pen. After the product evaluation task, some demographic variables were measured. Finally, participants were thanked, paid and debriefed. None of the subjects reported to have guessed the hypothesis.

**Results**

To test the effects of implicit self-esteem and ownership of the pen, we conducted a regression analysis on the evaluation of the pen, using Implicit self-esteem, Ownership and the interaction term Implicit self-esteem X Ownership as predictors of the evaluation of the pen. We found a main effect of implicit self-esteem,  $Beta = .65$ ,  $t(96) = 2.15$ ,  $p < .03$ , such that the higher scores on implicit self-esteem the more positive the evaluations of the objects. The interaction implicit self-esteem X ownership was marginally significant,  $Beta = -.41$ ,  $t(96) = -1.89$ ,  $p < .06$ . We conducted simple slope analyses (Aiken & West, 1991) and found that there was an effect of implicit self-esteem on the evaluation of the pen in the Possession condition,  $Beta = .27$ ,  $t(96) = 2.07$ ,  $p < .04$ , but not in the Control condition,  $Beta = -.12$ ,  $t(96) = -0.74$ ,  $p > .46$ , *n.s.* In the possession condition people high in implicit self-esteem liked the pen better than people low in implicit self-esteem. In the control condition there were no differences between the evaluations of the pen of high and low implicit self-esteem participants,  $t < 1$ . These results are shown in Figure 6.

*Figure 6: Evaluation of the pen as a function of Self-esteem and Ownership*



It should be noted that the results were identical when we used difference scores, i.e., the evaluation of the pen contrasted with the evaluation scores of the two other products. Similar analyses using explicit self-esteem did not reveal any significant effect (all  $t$ 's < 1).

## Discussion

As expected, we found that people high in implicit self-esteem evaluated the pen when owned more positively than the same pen when they did not own it. People low in implicit self-esteem did not show this effect. Thus, the level of implicit self-esteem moderates the mere ownership effect. People high in implicit self-esteem have strong positive self-associations and this positivity spills over to other self-related objects, such as their possessions. For people low in implicit self-esteem, there is nothing positive to spill over. They have negative self-associations and these self-associations do not spill over to self-associated objects like possessions.

Encouraged by the results of Study 4.1 we continued to study the effects of implicit self-esteem on the endowment effect in Study 4.2. If the endowment effect can be partly explained by the mere ownership effect, we would expect that implicit self-esteem would also moderate the endowment effect.

## Study 4.2

### *Overview*

In this study, we investigated the role of implicit self-esteem in the endowment effect. Implicit self-esteem was measured by what may be called a name letter version of the Implicit Association Test (IAT; Farnham et al., 1999). The object to be valued in this study was a pen that was either given to participants (who could keep it), or not. This way, we investigated the role of implicit self-esteem with regard to the endowment effect.

## Method

### *Participants and Design*

Participants were 38 undergraduate students of Radboud University Nijmegen, who were paid € 3, -. The study consisted of a 2 (Ownership: Possession vs. control) X Implicit Self-esteem between-subjects design. Participants were randomly assigned to one of the two Ownership conditions. Implicit self-esteem was used as a continuous factor. The dependent variable was the price allocated to the pen.

### *Procedure*

The procedure of Study 4.2 was approximately the same as the procedure of Study 4.1. Again, this study consisted of two sessions. In a preliminary session we measured implicit self-esteem by using an adapted version of the self-esteem IAT (Farnham et al., 1999), which we refer to as the name-letter IAT. In this name letter IAT one categorization concerned positive vs. negative words and the other categorization concerned the name letters vs. non-name letters of the participant. The IAT comprised 5 blocks, in which participants were asked to categorize stimuli as accurately and as fast as possible. In the first block, participants were asked to categorize positive and negative words using a right- and left- hand key on the keyboard respectively. In the second block, they were asked to categorize the presented letters as 'own name letters' or 'non own name letters' using the same keys. In the third block, these tasks were combined, so that positive words and name letters should engender the same response (on the left key) and negative words and non name letters should engender the same response (on the right key). In the fourth block participants again only had to categorize positive and negative words but now, compared to the first block, the keys for the positive and negative words were reversed. In the final fifth block, the two categorization tasks were combined again, but now the positive response was combined with the non name letter response and the negative response was combined with the name letter response.

The name letter IAT scores were calculated after removing reaction times of incorrect responses. The IAT score is then the difference between the mean reaction time of (the 'incongruent') block 5 and the mean reaction time of (the 'congruent') block 3. This way, the name letter IAT score represents the ease of combining name letters (self-symbols) with positive things compared to combining them with negative things (relative to the same comparison for non name letters). The higher this score, the higher the participant's implicit self-esteem.

At the end of part one, participants made an appointment with the experimenter for part two.

Approximately one week later, participants returned to the laboratory where they were seated in an individual cubicle behind a computer. The experimenter told them that further instructions would be presented on the computer screen.

Participants were randomly assigned to one of the two Ownership conditions and started with a product pricing task. Like in Study 4.1, next to the computer we placed a small box containing the three products; a pen, a pencil sharper, and a note block. Participants were asked to take the products out of the box and place them in front of them on the table. Nothing was mentioned about the product prices, because in this experiment, we were

interested in the prices participants would allocate to the products as the main dependent variable.

The participants in the possess condition were told that they received one of the three products as a present for their participation in the experiment. The computer determined randomly which product they received. As in Study 4.1, this gift product was always the pen. After looking at the products, participants were asked to put the products back in the box, except that the participants who had just received the pen as a gift were allowed to keep it. Participants in the control condition were not told anything about receiving a gift and immediately continued with the next part of the experiment, after putting all three products back in the box.

After an unrelated 5 minutes filler task, participants were asked to allocate an amount of money to the pen. Participants in the possession condition were asked to indicate the price for which there were prepared to sell the pen (WTA). Participants in the control condition, who did not receive the pen as a gift, were asked to indicate the price they were prepared to pay for the pen (WTP). Finally, participants were thanked, paid and debriefed. None of the subjects reported to have guessed the hypothesis.

## Results

### *Preliminary analyses*

We obtained a significant name letter IAT-effect ( $M_{\text{dif}} = 0.29$ ,  $SD = 0.29$ ),  $t(37) = 6.04$ ,  $p < .01$ , suggesting that, on average, the participants' implicit name letter evaluations were positive, specifically more positive than non-name letter evaluations.

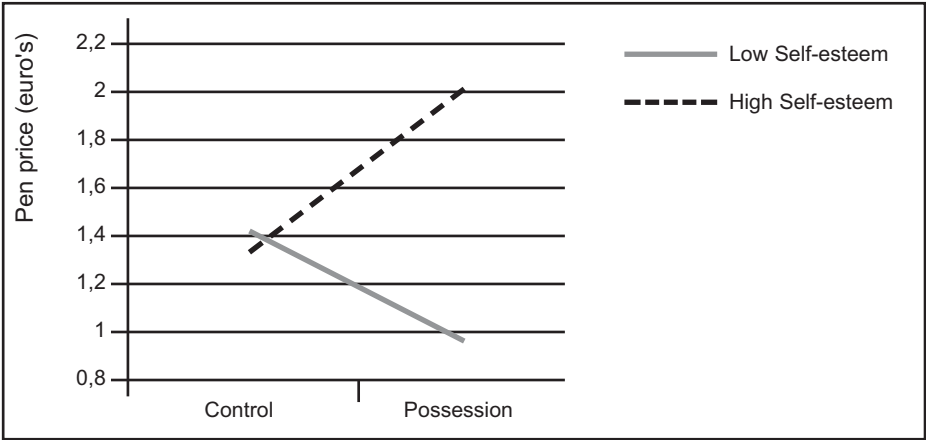
### *Implicit egotism and evaluation of the pen*

To test our hypotheses, we conducted a regression analysis on the price that participants allocated to the pen, using Implicit self-esteem, Ownership and the interaction term Implicit self-esteem X Ownership as predictors of the price of the pen. Ownership was coded as a dummy variable, with value  $-1$  for the control condition and  $1$  for the possession condition. We found a significant main effect of implicit self-esteem on the price of the pen,  $Beta = .39$ ,  $t(35) = 1.88$ ,  $p < .04$ , indicating that people high in implicit self-esteem found the pen more valuable. In line with our predictions, the interaction between implicit self-esteem and ownership was also significant,  $Beta = .60$ ,  $t(35) = 2.00$ ,  $p < .05$ . Simple slopes analyses revealed a marginal significant effect of ownership for people high in implicit self-esteem,  $Beta = .47$ ,  $t(35) = 1.95$ ,  $p < .06$ , but not for people low in implicit self-esteem. So people with positive self-associations estimated the monetary value of the pen higher when they possessed it (WTA) than when they did



not possess (WTP) the pen. There was no such effect for people low in implicit self-esteem. Additionally, we found an effect of level of implicit self-esteem in the possession condition,  $Beta = .64$ ,  $t(35) = 2.14$ ,  $p < .04$ , but not in the control condition,  $Beta = -.07$ ,  $t(35) = -0.38$ ,  $p > .80$ ,  $n.s.$ , indicating that when participants could keep the pen (WTA), participants high in implicit self-esteem allocated a higher monetary value to the pen than did low self-esteem participants. These results are shown in Figure 7.

Figure 7: Allocated price to the pen as a function of Self-esteem and Ownership



Again, there were no effects of explicit self-esteem on the price that participants allocated to the pen (all  $f^2$ 's  $< 1$ ).

### Discussion

As expected, we found that people with high implicit self-esteem allocated a higher price to a pen they owned than to the same pen when they did not own it. People low in implicit self-esteem did not allocate a higher price to the pen when they owned it. So the endowment effect is moderated by differences in self-associations as indicated by our implicit self-esteem measure. In line with previous research on the endowment effect, WTA exceeded WTP. Importantly however, this effect was only obtained among individuals with positive self-associations. No differences between the WTA and the WTP were observed among people scoring low on our implicit self-esteem measure.

### General Discussion

The goal of the present study was to demonstrate empirically that the mere ownership effect may partly underlie endowment effects. The core idea was to show that individual differences in the level of positive self-associations would be related to explicit

statements concerning the monetary value of an owned object. As a first step, the results of Study 4.1 showed that explicit evaluations of owned objects were predicted by implicit self-esteem. Study 4.2 more directly showed the predicted effects. The endowment effect, i.e., the difference in WTA and WTP, became more pronounced with increasing positivity of self-associations in our participants. In other words, when selling an object they owned high self-esteem participants ascribed more monetary value to it compared to when buying the same object when they did not own it. This difference was not obtained among low self-esteem participants.

In line with contemporary accounts concerning the relation between implicit and explicit attitudes (e.g., Gawronski & Bodenhausen, 2006; Olson & Fazio, 2009) the present research provides another case of consistency between implicit and explicit evaluations. In other words, participants in our study used their automatic affective reactions as a basis for their explicit evaluations and explicit statements regarding the monetary value of objects. As we mentioned in the introduction, in various domains discrepancies between implicit and explicit evaluations have been reported frequently. Sometimes people are motivated and able to reject affective reactions as a basis for an evaluative judgment. For example, it has been frequently shown that white participants show negative implicit attitudes towards African Americans while expressing positive attitudes on the explicit level. Also, implicit measures for self-esteem are often unrelated to explicit measures of self-esteem. In both these cases participants reject their implicit affective reactions as a basis for evaluative judgment and use explicit beliefs as a basis for their judgment (e.g., “I should not be negative about black people”, “It is good to have positive self-regards”). However, in the present studies participants were not aware of the fact that their self-evaluation may spill over to the product they had to evaluate, and therefore they were less likely and less able to correct for their automatic affective reactions.

Our results may seem at odds with research by Beggan (1992) showing that mere ownership effects particularly arise after individuals were provided with failure feedback. In such cases people use the positive evaluation of owned objects as a strategy to self-enhance and maintain a positive sense of self. In our study though, we obtained the mere ownership effect and, by consequence, the endowment effect only for people high in implicit self-esteem. We argue that, with regard to motivational implications, a distinction should be made between the dynamics of failure feedback and the way in which implicit self-esteem generally affects self-related objects. Failure feedback may instigate a temporary motivation for self-enhancement, resulting in enhanced ownership effects, independent of implicit self-esteem.

Conversely, high implicit self-esteem may predominantly influence ownership processes due to the spill-over effect of positive self-associations in situations in which self-esteem is not at stake, that is, when participants are not preoccupied with their self-esteem. Note that such self-esteem-innocuous situations were also used in Studies 3.1 and 3.2 of the current dissertation. In line with the current findings, these previous data showed a correlation between implicit self-esteem and evaluations of objects that were linked to the self. Of course, it would be interesting to test ownership effects as a function of both failure feedback and individual differences in implicit self-esteem. It may be worthwhile to study these issues in future research.

The current study provides new and convincing evidence for the crucial role of psychological processes in the endowment effect. Differences in the allocation of monetary value as a function of selling and buying can be partly related to loss aversion in selling. However, since selling always implies that you assign value to something you possess, self-evaluation processes come into play. Our research shows that people differ in their appreciation of the things they own. Their implicit self-esteem spills over to the things they possess.

So, when you evaluate your possessions, the basic rule is that you have to love yourself – at least at an implicit level – before you can really appreciate what you own. And if you do, chances are you will not sell it cheaply.

# CHAPTER 5

## GENERAL DISCUSSION





**T**he main aim of this dissertation was to investigate the moderating role of self-esteem in implicit egotism effects. In this final chapter, we will review our findings and discuss how they shed a new light on implicit egotism effects. After discussing the main findings of the empirical chapters, some limitations will be addressed, and some directions for future research will be suggested.

## **THE MODERATING ROLE OF IMPLICIT SELF-ESTEEM IN IMPLICIT EGOTISM**

The central goal of this dissertation was to learn more about the processes underlying implicit egotism by studying implicit egotism as a function of individual differences in implicit self-esteem. Based on the idea that implicit egotism results from the spill-over of positive self-associations to self-related objects, we hypothesized that implicit egotism effects would only be obtained for individuals with positive self-associations and not for individuals with neutral or negative self-associations. In other words, the central hypothesis we tested was that people with high implicit self-esteem show implicit egotism to a greater extent than people with low implicit self-esteem.

In line with this general hypothesis, the results described in Chapters 3 and 4 showed that implicit self-esteem indeed moderates implicit egotism. In Chapter 3 it was shown that individual differences in self-esteem predict evaluations of objects referring to the self. In line with earlier studies on implicit egotism effects in the domain of name-branding (see e.g., Brendl et al., 2005), self-reference of objects was manipulated by including the first two name letters of the participant in the brand name of an object (i.e., a bike, Study 3.1) or by including the first two letters of the name of the participant and their birthday number in the name of the product (i.e., a DVD-player, Study 3.2). Both these studies revealed more positive evaluations of objects referring to the self among high self-esteem individuals compared to low self-esteem individuals. No relation was found between self-esteem and the evaluation of objects that were not related to the self.

In Chapter 4 we further investigated the role of implicit self-esteem in implicit egotism by building on previous research on the mere ownership effect (Beggan, 1992). Beggan argued that the mere ownership of an object increases the evaluation of that object because through ownership the object becomes part of the self. Going beyond this previous work, and in line with the general hypothesis of this dissertation, we predicted that owning an object would only result in positive evaluations of that object if the owner holds positive self-associations and not if the owner's self-associations are negative. This idea was tested in the two studies reported in Chapter 4. In both studies participants were

or were not given a pen. In agreement with the general hypothesis, the data showed that when they owned the pen, participants with high self-esteem evaluated the pen more positively (Study 4.1) and assigned more monetary value to it (Study 4.2) than low self-esteem participants. No relation between product evaluation and self-esteem was obtained in a control condition in which the pen was not owned.

Taken together these four studies reported in Chapters 3 and 4 provide strong evidence for our hypothesis that implicit egotism effects are moderated by implicit self-esteem. Thus, our findings corroborate the idea that positive self-esteem underlies implicit egotism effects, at least as far as implicit egotism is expressed in the enhanced evaluation of objects one owns (Chapter 4) or objects bearing relevant self-symbols (Chapter 3). As Pelham and colleagues (2002) theorized in their paper on the consequences of name-letter preferences for major life decisions, *“people’s automatic associations about themselves may influence their feelings about almost anything that people associate with the self”* (p. 470). It is worth noting that this basic idea concerning implicit egotism effects was actually never empirically tested (but see Gawronski et al., 2007). The studies reported in Chapters 3 and 4 are fully in line with the idea that positive self-associations spill over to self-related objects. If people have positive self-associations they tend to evaluate self-related objects more positively than when objects are not self-related. However, if people lack positive self-associations, such implicit egotism effects are not obtained. Irrespective of the way in which a link is established between the self and an object (e.g., through name letters or ownership), such self-reference suffices to elicit spill-over effects of the attitude towards the self onto these objects.

In contrast to the findings reported in Chapters 3 and 4, the results of the studies described in Chapter 2 showed no evidence for a correlation between implicit self-esteem and the use of name letters in written language production. Across three studies we provided evidence for an ‘implicit egotism’ effect entailing that individuals use their own name letters in written text more frequently than they use the letters not included in their name. Note that in Study 2.2 and 2.3 implicit self-esteem was measured, but the data did not show any moderation of the overuse of name letters by implicit self-esteem. Thus irrespective of individual differences in self-esteem, individuals produce texts that contain more name-letters than you would expect on the basis of chance. Importantly, Study 2.3 revealed that participants used more name letters in positive valenced words, and not in negative valenced words, but again this effect was obtained irrespective of the participants’ implicit self-esteem.

Why were the implicit egotism effects in language production reported in Chapter 2 independent of differences in implicit self-esteem? Although the data in this dissertation do not allow to directly test hypotheses concerning the conditions under which moderation of implicit egotism by implicit self-esteem does or does not occur (i.e., hypotheses concerning the moderation of self-esteem moderation), it is worthwhile to ponder on some possible explanations.

One possibility that should be mentioned for the sake of completeness is that the measures of self-esteem used in Chapter 2 (Study 2.2 and 2.3), i.e., the name letter effect, was not reliable or valid. This is not a very plausible explanation since we successfully used the same measure in the other empirical studies. Nevertheless, null effects should always be treated with caution.

On a theoretical level, it is important to note that there are a few potentially crucial differences in the type of processes studied in Chapter 2 versus those studied in Chapters 3 and 4. While the processes studied in Chapters 3 and 4 are concerned with explicit evaluations of and preferences for objects, the language production processes studied in Chapter 2 do not deal with explicit preferences. Language production processes as studied in Chapter 2 may be characterized as largely automatic. Although the content of what people say or write may be intentional and strategic, the selection of words to compose an utterance seems to unfold in a fairly quick and automatic way (see e.g., Levelt, 1989). Thus, although the possibility definitely cannot be ruled out completely, it is unlikely that the words one uses when writing a text are online selected partly on the basis of the letters they contain. In contrast, the processes studied in Chapter 4 were more reflective in nature. Although, associative processes influence decisions and evaluations, participants did reflect on their evaluations since they were asked to explicitly evaluate the objects. In a nutshell, the latter is a slower process and contains more deliberations directed at object preference than the former. When discussing possible explanations for the difference in self-esteem moderation, it may also be of interest to focus on the difference between using positive things (e.g., positive self-related words or other positive self-related symbols) and allocating value to things as a function of possessing them. The question then is, how the difference in degree of explicitness and the difference between preference and usage can explain the difference in self-esteem moderation.

Considering these preliminary explorations concerning differences in process, three tentative theoretical explanations may be put forward. First, spontaneously using objects (e.g., words) may differ from explicitly evaluating objects in their implications for self-enhancement. When using objects, their positive self-reflective nature (e.g., positive



words with name letters in them) may elicit their preferential and repeated use outside of the awareness of the user precisely because of their potential self-enhancing implications. Thus construed, preferential use of positive words containing name letters would constitute a spontaneous self-serving mechanism, which seems consistent with some other self-enhancing strategies. Cialdini and colleagues showed that people associate themselves with successful groups in order to feel good about themselves by, e.g., using the term “we” (instead of “they”) or to wear club symbols (or not) when their team had won (compared to lost) (Cialdini et al., 1976; Cialdini & Richardson, 1980). In a similar vein, the preferential overuse of positive valenced words containing name letters can be construed as an unconscious self-enhancement strategy.

Although admittedly highly speculative, the overuse of positive name letter words could thus be construed as a stealthy and unconscious form of propaganda in which one’s positive self-image is enhanced by repeated association of the self with positive words with a high name letter proportion. The repeated use of these positive name letter words would not only render the self but also own name letters more positive by mere association with positive words. Since both people high in implicit self-esteem and people low in implicit self-esteem engage in self-enhancement strategies, differences in self-enhancement on the basis of variations in self-esteem would not be expected (or may even be reversed assuming that threatened self-esteem would require self-esteem repair). It follows from this reasoning that implicit self-esteem would not have to moderate the overproduction of own name letter words in written texts. However, as we noted above, it seems highly unlikely that the words we use in spontaneous language productions are partly selected on the basis of the letters they contain. Therefore, this intriguing and highly speculative explanation may not be the most realistic one.

A second -and probably somewhat more plausible- explanation for the absence of self-esteem moderation in the overuse of name letters in language production is based on the idea that the relationship between name letter word use and self-esteem may have existed at the time one learned to read and write, but the two processes became dissociated over time. Children learning the alphabet -and even some time before they come to know the entire alphabet- seem to have a fascination for their own name letters, particularly for the initial of their first name. They may already recognize their first name initial at an early age (as demonstrated, e.g., by shouting ‘that’s my letter’ when spotting it) and later they may like to play around with their name letters and may even unconsciously preferentially use positive words containing name letters. Although we do

not even have any anecdotic evidence supporting this idea, it is possible that if we were paying attention we might overhear Susie mumbling 'super' or Collin calling something 'cool' whenever they felt particularly good about something. At this early stage of learning the alphabet and learning to read and write, the relationship between implicit self-esteem (i.e., feeling good about oneself) and preferential name letter use may have been established. As a consequence, for high self-esteem children these name-letter words become more accessible. Accessibility of words is an important determinant of word selection in language production. So when these words (i.e., positive words containing name-letters) become more accessible, the subsequent use of these words further enhances their accessibility which may over time create stable differential accessibility of positive name letter words compared to other words. This way, at a relatively early age, long lasting effects on word accessibility may have been established that may have persisted irrespective of further developments of implicit self-esteem later in life. During the lifespan, major and minor developments and events in someone's life influence the level of self-esteem (Heatherton & Polivy, 1991; Robins & Trzesniewski, 2005). Thus, the self-esteem of some children may deteriorate while others' may improve, resulting in a dissociation between self-esteem and the relative overuse of positive name letter words later in life. This may explain why we did not find self-esteem moderation of the overuse of positive name letter words in the research reported in Chapter 2. It would be interesting to test this idea in future research. For example, our argument would entail that a relatively strong correlation between self-esteem and overuse of name letter words may be obtained among young children.

Finally, there is a third explanation in which the idea of a relationship between self-esteem and word use is completely abandoned. It is conceivable that, particularly at the time of language acquisition, words containing name letters sound more familiar and are therefore used with more ease than words without name letters. Enhanced use will lead to enhanced accessibility. Because positive words are generally being used more frequently than negative words, the resulting differential accessibility effect of name letter words versus non-name letter words may in the long run lead to the relative overuse of positive name letter words. Although this seems a viable, ecological approach to explain the phenomenon of overuse of positive name letter words, it would not explain the underuse of name letters words in negative words.

With regard to the overuse of name letters in language production, the present data are still lacking a solid theoretical foundation. It is up to future research to shed more light on this intriguing phenomenon.

## UNDERSTANDING IMPLICIT EGOTISM EFFECTS

The present research aimed to elucidate the processes underlying implicit egotism effects. A great number of studies on implicit egotism were based on archival studies (e.g., Anseel & Duyck, 2008; Jones et al., 2004; Pelham, 2002). The present research can be placed in the relatively small, but rapidly increasing (see e.g., Brendl et al., 2005; Jones et al., 2004) category of studies that employed experimental techniques to investigate implicit egotism effects. Using such an experimental approach, the present studies circumvented possible problems that seem inherent to the archival approaches (e.g., sampling biases, see Gallucci, 2003).

We started out by testing the idea that positive self-associations are crucial in understanding the enhanced evaluation of self-associated objects. In other words, we expected that evaluation of the self would spill over to the evaluation of objects that are or become linked to the self. Although this account is in line with the general argument of Pelham and colleagues, an alternative mechanism has also been proposed in the literature. Specifically, implicit egotism effects have been framed in terms of general self-enhancement motives (e.g., Jones et al., 2004). Merely linking positive affect towards self-related objects (e.g., name-letters or owned items) serves people to make them feel better about themselves. In line with a self-enhancement account, several studies showed that implicit egotism effects are stronger upon receiving failure feedback (Beggan, 1992; Jones et al., 2004; Koole et al., 1999). People have an especially strong need to feel good about themselves after an experience of failure and, therefore, enhanced egotism effects will be obtained after failure.

In contrast, the present results reported in Chapters 3 and 4 support the idea that evaluative associations towards the self spill over to the evaluation or assigned value of self-related objects. In other words, the implicit egotism effects involved can be best understood in terms of “normal” attitudinal processes rather than motivational processes. Associative processes (cf. self-anchoring, Gawronski et al., 2007) are assumed to play a key role in implicit egotism effects. Indeed, in line with this assumption, we only obtained a moderation of implicit egotism when using implicit measures of self-esteem (i.e., both a name-letter measure and a self-esteem IAT). These implicit measures of self-esteem tap into the evaluative associations of the self (Gawronski & Bodenhausen, 2006). Explicit measures of self-esteem however, failed to show any relationship with the egotism phenomena examined in this dissertation. As explicit self-esteem measures rely on propositional rather than associative processes, it is not surprising that they do not moderate the implicit egotism effects studied in the present research. At the same time,

explicit measures of self-esteem are also more likely to capture self-enhancement motives. Therefore, the fact that we did not find moderation of implicit egotism by explicit self-esteem further argues against self-enhancement strategies as a viable interpretation of the egotism effects reported in Chapters 3 and 4 of the present dissertation.

However, we would like to emphasize that the present studies were designed to show the moderating role of evaluative self-associations with regard to implicit egotism effects and were clearly not designed to rule out self-enhancement explanations. Nevertheless, a self-enhancement account provides a less parsimonious explanation for the findings reported in Chapters 3 and 4, because these data may easily and straightforwardly be explained in terms of evaluative self-associations. Earlier studies providing evidence for self-enhancement in this domain could possibly also be explained in terms of self-esteem differences. Clearly, failure feedback may strengthen self-enhancement motives. At the same time, providing failure feedback can strengthen the extent to which the self is activated, that is, failure can make the self more salient. As a result, evaluative self-associations may play a more important role in decisions and judgments after failure feedback such that individuals with positive self-associations may then evaluate objects linked to the self more positively than individuals lacking these positive self-associations. If, generally speaking, there are more individuals with positive self-associations than with negative self-associations, it could be expected that on average across individuals self-related objects become more attractive after failure feedback. However, in order to further test these ideas, it would be interesting to study the effects of failure feedback and other manipulations of self-activation on implicit egotism as a function of individual differences in implicit self-esteem. This being said, we cannot rule out that self-enhancement may, in some ways, underlie some implicit egotism effects.

## **A NEW MEASURE OF IMPLICIT SELF-ESTEEM**

In the current research we used two different measures of implicit self-esteem. In most of the reported studies, we administered a letter evaluation task in order to calculate the name-letter effect, which seemed a useful indicator of implicit self-esteem in the current studies as it was in many other previous studies.

The second measure that we employed was what we called a name letter IAT. It is a modified version of the Implicit Association Test (IAT, Farnham et al., 1999). The original Self-esteem IAT is problematic because in addition to categorizing words into valence, the self-category is used (me, not me). However, the words that are used for “not me” are generally speaking not neutral, but refer to other people (“he”, “she” or “they”).

The problem is, then, that to some unknown extent the implicit evaluation of others may affect this self-esteem measure. One solution for this problem is to delete the other category altogether and use the Single Target IAT (Wigboldus, Holland, & van Knippenberg, 2005). Indeed, the ST-IAT has been successfully employed in the domain of self-esteem (Holland, Wennekers, et al., in press).

In the present dissertation we used quite a different solution for that problem. Instead of deleting the “other” category, we created a categorization task that is very naturally related to the “me” – “not-me” distinction. Participants were asked to indicate whether letters were part of their name or not. In this name-letter IAT participants have to respond with the “me” button whenever the displayed letter is part of the name, and with the not-me button when the letter is not part of the name. Although at first sight this may seem just another name-letter measure it may be argued to have some interesting features that other name letters are lacking. Importantly, the IAT is mainly based on associations with the category labels, probably to a larger extent than on the evaluations of the exemplars that are used in the categorization process. The categorization decision concerns whether a letter ‘belongs to me’ or ‘not to me’, which it shares with most other self-IAT’s. To the extent that the exemplars as such contribute to the differential evaluation effect, this measure may also share variance with the usual name letter measure. Finally, as a predictive validity argument, one might add that this name letter IAT successfully served as moderator in the implicit egotism effects observed in Chapter 4 (Study 4.2). Therefore, we argue that the “name-letter” IAT constitutes a valid measure of implicit self-esteem. Whether or not this name letter IAT is a better measure of implicit self-esteem than other self-esteem IAT’s is up to future research.

## CONCLUDING REMARKS

In this dissertation it was shown that implicit egotism effects -as represented in the enhanced evaluation of objects that contain reference to the self and enhanced evaluation of objects due to mere ownership- are crucially dependent on the participant’s positive implicit self-evaluation. Thereby this research provides a theoretically and empirically more solid explanation for the occurrence of these types of egotism effects. In a way, this dissertation accomplished something that implicit egotism research so far has not been able to do, namely complete the logical argument concerning implicit egotism effects in the sense that it represents a spill-over of positive self-associations to anything that is -one way or other- linked to the self (with the exception of Gawronski et al.’s (2007) recent work on the implicit self-esteem foundations of egotism effects in the domain of self-anchoring). This way, this dissertation contributed to settling some extant accounts.

Another exciting contribution of the present research is that it shifted the boundaries of what needs to be explained by introducing yet another area in which name letter-related egotism was demonstrated: the overuse of name letters in written texts. It was shown that the written texts that individuals produced contained more name letters than expected on the basis of chance, which was particularly shown to be the case with positive words. These exciting new data still await plausible and empirically verified explanations, but the present discussion may provide the first tentative explanatory conceptual tools to come to grips with these new findings.



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## SUMMARY

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Most people like themselves. High levels of self-esteem may have implications for behavior and decision-making. Recent studies have shown that people tend to move toward cities that resemble their personal names. Also, people choose jobs that have names that resemble their own names. Furthermore, it was found that people's decisions to live in a particular street and to marry a particular person, are (at least partly) based on the similarities of the names of, respectively, these streets and persons with their own name. Thus, Michiel is more likely to live in Munstergeleen, to become a musician and to live in the Meishagerstraat, than one would expect on the basis of chance.

The unconscious preference for stimuli that are associated with the self was called *implicit egotism*. Most people feel good about themselves. As a consequence, they like objects that are associated with the self. Our names are stimuli that are closely associated with our self and, therefore, the letters constituting our name, i.e., our name letters, are highly representative for our identity. The idea underlying implicit egotism is that positive feelings about our self result in positive feelings about anything that is associated with our self. So, the more positive we feel about our self, the more positive we evaluate stimuli that are more or less part of our self. Consequently, if Michiel feels good about himself, he should show a preference for self-relevant stimuli, e.g., musician, Meishagerstraat, and the village of Munstergeleen. The theory would also predict that if Michiel does not feel good about himself, he should prefer neither musician, nor Meishagerstraat, nor Munstergeleen.

However, although these feelings about oneself are a central and crucial aspect of the theory of implicit egotism, they were not taken into account in the studies described above. We would expect that name letter effects should only be observed for people who feel good about themselves (i.e., have highly positive implicit self-esteem), but not for people who feel less good or even bad about themselves (i.e., have low or even negative implicit self-esteem). In the present thesis we aimed to investigate how people vary in the evaluation of self-associated objects.

In Chapter 2 we add an entirely new area to implicit egotism research. We reasoned that if people evaluate their name letters more positively, they might use their name letters more in texts. This hypothesis was confirmed: In three studies we showed that people tend to overuse their name letters in written texts. In Study 2.1 it was demonstrated that authors of *Journal of Personality and Social Psychology* articles use their name letters more often in their abstracts than one would expect based on general letter frequencies in these abstracts. In Study 2.2 we found that people not only show an overuse of name letters in formal and scrutinized texts, but also in written texts about more trivial everyday topics. In Study 2.3 we demonstrated that people show an overuse



of name letters in words with a positive meaning and that people tend to avoid words with a negative meaning. In these studies we also found that in formal situations people tend to overuse the letters of their last name and that in informal situations people tend to overuse the letters of their first name. However, we did not find the expected moderating effect of implicit self-esteem.

In Chapter 3 we investigated the moderating role of implicit self-esteem in implicit egotism effects. In Study 3.1 participants were exposed to an advertisement of a bicycle. Within the self-relevance condition, the name of the bike started with the first two letters of the participant's first name. Within the control condition the bike's name started with two non-name letters. Subsequently, participants evaluated the bike. Afterwards, implicit self-esteem was measured by the name letter effect. Evaluations of the self-referring bike were found to be more positive among high self-esteem individuals compared to low self-esteem individuals. In Study 3.2 we replicated this effect by using an advertisement of a DVD-player, which name was manipulated by using the first two letters of the first name of the participants and their birthday number (in the self-relevance condition). In this study we found that people with high self-esteem evaluated the self-relevant DVD-player better than the player that was not self-relevant. Across these two studies we showed that implicit evaluations of the self indeed moderate implicit egotism effects. Products were evaluated more positively by high self-esteem participants than low self-esteem participants when the brand name of that product included name letters (Study 3.1) or name letters and birthday numbers (Study 3.2). These effects are in line with the idea that the degree of positivity associated with the self moderates the strength of implicit egotism effects. In other words, products that referred to the self were liked better by individuals who have positive implicit self associations.

In Chapter 4 we investigated two effects that can be considered as special manifestations of implicit egotism: the mere ownership effect and the endowment effect (Once an object is owned, it become more attractive or valuable). In Study 4.1, we studied the effects of implicit self-esteem on object evaluations in two conditions: In the possession condition we gave the object to the participant for a present, while in the control condition we did not. Subsequently, we asked participants to explicitly evaluate the object. We predicted that implicit self-esteem was related to object evaluations in the possession condition, but not in the control condition. The results were consistent with this hypothesis: we found that people high in implicit self-esteem evaluated the pen when owned more positively than the same pen when they did not own it. People low in implicit self-esteem did not show this effect. Thus, the level of implicit self-esteem

moderates the mere ownership effect.

Study 4.2 followed up on this first study, by directly testing the endowment effect (once an object is owned, it becomes more valuable) as a function of differences in self-esteem. If the endowment effect can be partly explained by the mere ownership effect, we would expect that implicit self-esteem would also moderate the endowment effect. In Study 4.2 we first measured implicit self-evaluations. One or two weeks later, participants returned to the laboratory and did or did not receive a pen as a gift. In the possession condition, participants were asked for how much money they were willing to sell this pen. In the control condition, they were asked how much money they wanted to pay for this pen. As expected, we found that people with high implicit self-esteem allocated a higher price to a pen they owned than to the same pen when they did not own it. People low in implicit self-esteem did not allocate a higher price to the pen when they owned it. So the endowment effect is moderated by differences in self-associations as indicated by our implicit self-esteem measure.

The studies in Chapter 4 provide new and convincing evidence for the crucial role of psychological processes in the endowment effect. Differences in the allocation of monetary value as a function of selling and buying can be partly related to loss aversion in selling. However, since selling always implies that you assign value to something you possess, self-evaluation processes come into play. Our research shows that people differ in their appreciation of the things they own. Their implicit self-esteem spills over to the things they possess.

Together, the studies in the present dissertation offer a systematic demonstration of the moderating role of positive self-associations in implicit egotism effects. In four studies, we demonstrated the role of implicit self-esteem on the evaluation of an object that was either self-related or not. However, this moderating role of implicit self-esteem was lacking in the studies of Chapter 2 on preferential name letter use in written texts. In Chapter 5 we elaborated on possible explanations for the differential effects of the moderating role of positive self-associations and discussed implications and suggestions for future research.

One contribution of the present research is that it shifted the boundaries of what needs to be explained by introducing yet another area in which name letter-related egotism was demonstrated: the overuse of name letters in written texts, which was particularly shown to be the case with positive words. Moreover, this dissertation accomplished something that implicit egotism research so far has not been able to do, namely complete the logical argument concerning implicit egotism effects in the sense that it represents a spill-over of positive self-associations to anything that is -one way or another- linked to the self.



# NEDERLANDSE SAMENVATTING



De meeste mensen hebben een goed gevoel over zichzelf. Een hoge zelfwaardering kan gevolgen hebben voor gedrag en keuzes. Recent onderzoek laat zien dat mensen de neiging hebben om te verhuizen naar een plaats waarvan de naam overeenkomsten vertoont met hun eigen naam. Ook kiezen mensen een baan die wat de naam betreft lijkt op hun eigen naam. Bovendien laat onderzoek zien dat onze keuze voor een bepaalde straat om in te wonen of een partner om mee te trouwen (op zijn minst gedeeltelijk) gebaseerd is op overeenkomsten tussen onze eigen naam en respectievelijk de straatnaam en naam van de persoon. Het is dus waarschijnlijker dat Michiel in Munstergeleen woont, een muzikant wordt en woont in de Meishagerstraat dan men zou mogen verwachten op basis van kans.

De onbewuste voorkeur voor stimuli die verbonden zijn met het zelf wordt *implicit egotism* genoemd. De meeste mensen hebben een goed gevoel over zichzelf en daarom vinden ze objecten aantrekkelijk die verbonden zijn aan dit zelf. Onze namen zijn stimuli die sterk verbonden zijn met het zelf en daarom zijn de letters die onze naam vormen (onze naamletters) zeer representatief voor onze identiteit. Het idee achter *implicit egotism* is dat positieve gevoelens over onszelf resulteren in positieve gevoelens over alles dat gerelateerd is aan het zelf. Dus, hoe positiever we over onszelf voelen, hoe positiever we stimuli evalueren die min of meer deel zijn van ons zelf. Dientengevolge zou Michiel, als hij een positief gevoel over zichzelf heeft, een voorkeur hebben voor zelfrelevant stimuli, bijvoorbeeld muzikant, Meishagerstraat en Munstergeleen. De theorie voorspelt ook dat als Michiel niet zo'n positief gevoel over zichzelf heeft, hij geen voorkeur zou hebben voor muzikant, Meishagerstraat of Munstergeleen.

Echter, ondanks het feit dat deze gevoelens over het zelf een centraal en cruciaal aspect vormen in de *implicit egotism* theorie, zijn deze niet meegenomen in de onderzoeken die hierboven beschreven zijn. We zouden verwachten dat naamletter effecten alleen gevonden worden bij mensen die een positief gevoel hebben over zichzelf (ofwel, een hoge impliciete zelfwaardering hebben), maar niet bij mensen die een minder goed gevoel of zelf een slecht gevoel hebben over zichzelf (ofwel, een lage impliciete zelfwaardering hebben). Het doel van het in dit proefschrift beschreven onderzoek is om te bekijken hoe mensen variëren in de evaluatie van zelfgerelateerde objecten.

In hoofdstuk 2 voegen we een compleet nieuw gebied toe aan het onderzoek naar *implicit egotism*. We redeneren dat wanneer mensen hun naamletters mooier vinden, zij deze wellicht ook meer gebruiken in teksten. Deze hypothese werd bevestigd: in drie studies lieten we zien dat mensen hun eigen naamletters meer gebruiken in

geschreven teksten. In Studie 2.1 lieten we zien dat auteurs van artikelen in het *Journal of Personality and Social Psychology* meer naamletters in hun samenvattingen gebruikten dan men zou verwachten op basis van algemene letter frequenties in deze samenvattingen. In Studie 2.2 vonden we dat mensen niet alleen meer naamletters gebruiken in formele, goed overdachte teksten, maar ook in geschreven teksten over meer triviale alledaagse onderwerpen. In Studie 2.3 toonden we aan dat men meer naamletters gebruikt in woorden met een positieve betekenis, maar dat men naamletters vermijdt in woorden met een negatieve betekenis. In deze studies vonden we ook dat mensen de letters van hun achternaam meer gebruiken in meer formele teksten en de letters van hun voornaam meer gebruiken in meer informele teksten. Echter, we vonden niet de verwachte modererende rol van impliciete zelfwaardering.

In hoofdstuk 3 onderzochten we de modererende rol van impliciete zelfwaardering in implicit egotism effecten. In Studie 3.1 lieten we proefpersonen een advertentie zien van een fiets. In de zelfrelevantie conditie begon de naam van de fiets met de eerste twee letters van de voornaam van de proefpersoon. In de controle conditie begon de naam van de fiets met twee letters die niet in de (voor en achter) naam van de proefpersoon zaten. Vervolgens werden de proefpersonen gevraagd om de fiets te evalueren. Daarna werd de impliciete zelfwaardering gemeten door middel van naamletter meting. De evaluaties van de fiets in de zelfrelevante conditie waren positiever bij mensen met een hoge impliciete zelfwaardering dan bij mensen met een lage impliciete zelfwaardering. In Studie 3.2 repliceerden we dit effect door een advertentie te gebruiken van een DVD-speler, waarvan de naam in de zelfrelevante conditie de eerste twee letters van de voornaam plus het getal van de dag uit de geboortedatum bevatte. In deze studie vonden we dat bij mensen met een hoge impliciete zelfwaardering het zelfrelevante product beter werd geëvalueerd dan de DVD-speler in de controle conditie. In deze twee studies lieten we zien dat impliciete zelfevaluaties inderdaad implicit egotism effecten modereren. Producten werden positiever beoordeeld door mensen met een hoge impliciete zelfwaardering dan mensen met een lage impliciete zelfwaardering wanneer de merknaam van dat product de naam (Studie 3.1) of de naam en geboortedag (Studie 3.2) bevatte. Deze effecten zijn in lijn met het idee dat implicit egotism effecten gemodereerd worden door de mate van positiviteit over het zelf. Met andere woorden, producten die gerelateerd zijn aan het zelf worden mooier gevonden door mensen met positieve impliciete zelfassociaties.

In hoofdstuk 4 onderzochten we twee effecten die beschouwd kunnen worden als twee bijzondere manifestaties van implicit egotism: het mere ownership effect en het endowment effect (wanneer je een object bezit wordt het aantrekkelijker/waardevoller).

In Studie 4.1 onderzochten we het effect van impliciete zelfwaardering op object evaluaties in twee condities: in de bezit conditie gaven we het object als cadeautje aan de proefpersoon, terwijl men in de controle conditie niets kreeg. Vervolgens vroegen we de proefpersonen om een waarde te geven aan het product. We verwachtten dat impliciete zelfwaardering gerelateerd zou zijn aan de object evaluatie in de bezitconditie, maar niet in de controle conditie. De resultaten waren in lijn met deze verwachting: we vonden dat mensen met een hoge impliciete zelfwaardering de pen mooier vonden als deze van hun was (net gekregen dus) dan wanneer deze niet van hun was. Mensen met een lage impliciete zelfwaardering lieten dit verschil niet zien. De hoogte van de impliciete zelfwaardering modereert dus het mere ownership effect.

Studie 4.2 was een vervolg op deze eerste studie, door het endowment effect (zodra je een object bezit wordt het waardevoller) direct te onderzoeken als een functie van verschillen in zelfwaardering. Als het endowment effect gedeeltelijk verklaard kan worden als een mere ownership effect, dan mogen we verwachten dat impliciete zelfwaardering het endowment effect modereert. In Studie 4.2 maten we eerst impliciete zelfevaluaties. Een of twee weken later kwamen proefpersonen terug naar het lab en kregen zij wel of geen pen als cadeautje. In de bezit conditie werd hen gevraagd voor hoeveel geld ze de pen zouden verkopen. In de controle conditie werd gevraagd voor hoeveel geld ze de pen zouden kopen. Zoals verwacht kenden mensen met een hoge impliciete zelfwaardering een hogere prijs toe aan de pen als ze deze bezaten dan wanneer ze dezelfde pen niet bezaten. Mensen met een lage impliciete zelfwaardering kenden geen hogere prijs toe aan de pen wanneer ze deze bezaten. Het endowment effect wordt dus gemodereerd door verschillen in zelfassociaties.

De studies in hoofdstuk 4 bieden nieuw en overtuigend bewijs voor de rol van psychologische processen in het endowment effect. Verschillen in toegekende geldwaarde als een functie van verkopen of kopen kan slechts gedeeltelijk worden toegeschreven aan *loss aversion* bij het verkopen van een object. Echter, omdat verkopen altijd inhoudt dat je een waarde toekent aan iets dat je bezit, komt zelfevaluatie in het spel. Ons onderzoek laat zien dat mensen verschillen in de mate waarin ze dingen die ze bezitten waarderen. De impliciete zelfwaardering beïnvloedt de waardering van wat men bezit.

Alles bij elkaar genomen bieden de onderzoeken in het huidige proefschrift een systematische demonstratie van de modererende rol van positieve zelfassociaties in implicit egotism effecten. In vier studies lieten we de rol van impliciete zelfwaardering zien op de evaluatie van een object dat zelfrelevant was of niet. Echter, deze modererende rol van impliciete zelfwaardering miste in de studies in hoofdstuk 2 over preferentieel



naamletter gebruik in geschreven teksten. In hoofdstuk 5 gaan we in op de mogelijke verklaringen voor deze verschillende effecten van de (modererende) rol van positieve zelfassociaties en bespreken we implicaties en suggesties voor vervolgonderzoek.

Eén bijdrage van dit onderzoek is dat we de grenzen hebben verbreed van het onderzoek naar implicit egotism effecten door een gebied toe te voegen waar naamletter gerelateerd egotism gedemonstreerd werd: het bovengemiddeld gebruik van naamletters in geschreven teksten, wat vooral het geval is bij positieve woorden. Met dit proefschrift is daarnaast iets bereikt dat implicit egotism onderzoek tot nog toe niet heeft kunnen bewerkstelligen, namelijk het sluitend maken van de logische beredenering betreffende implicit egotism, door te laten zien dat er sprake is van het 'overlopen' van positieve zelfassociaties naar alles dat op de een of andere manier aan het zelf gerelateerd is.

DANKWOORD

R S



Hier ligt het dan. Ik kan het bijna niet geloven dat ik dit aan het schrijven ben, want dat betekent dat mijn proefschrift nu echt klaar is. Ik heb het zo lang mogelijk proberen uit te stellen, maar nu is mijn academische tijd en vooral ook mijn Nijmeegse tijd dan echt afgerond. Ik kijk er met heel veel plezier op terug!

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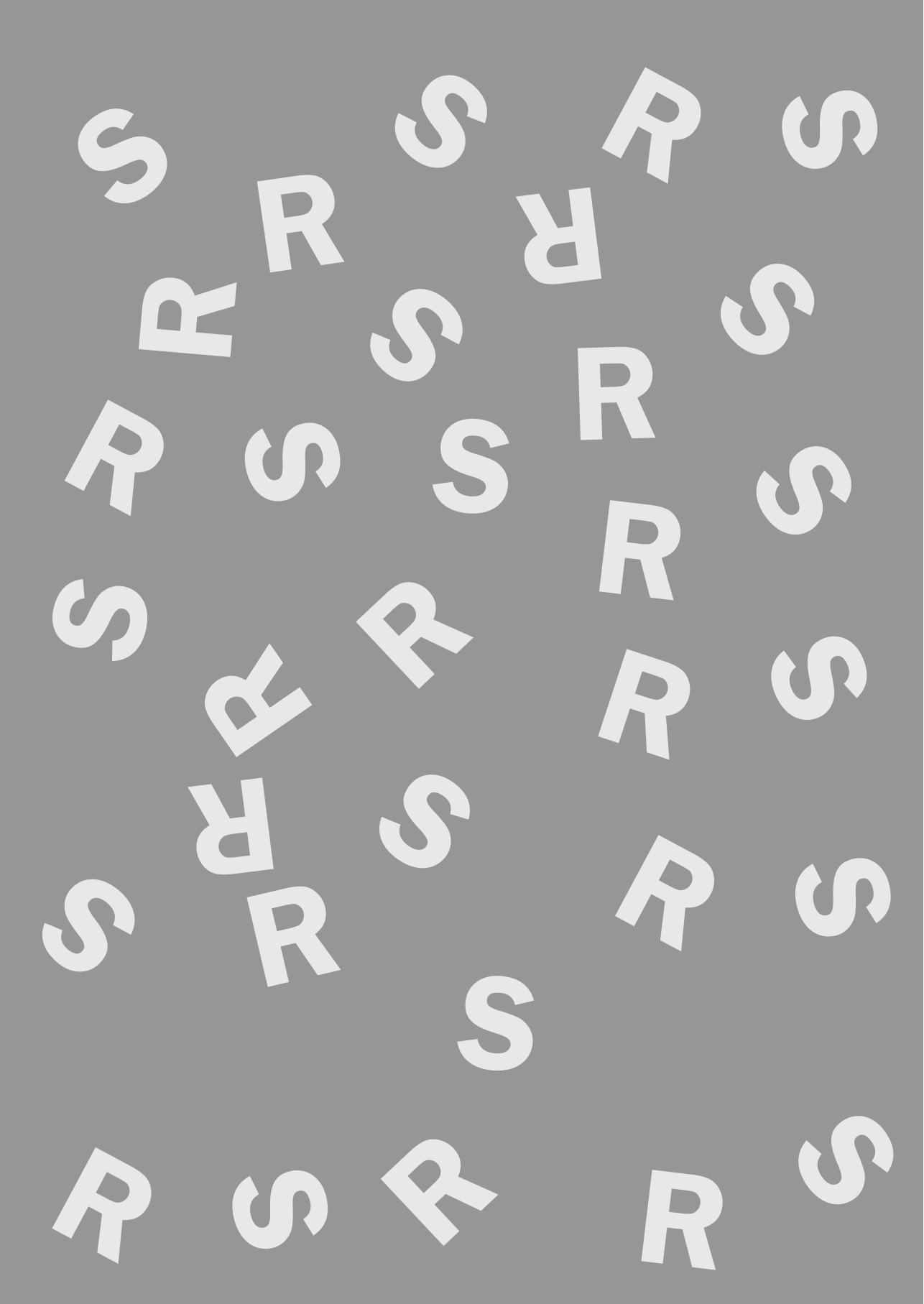
# CURRICULUM VITAE

RS



Raymond Christiaan Konrad Hubert werd geboren op 21 juni 1973 in het De Weverziekenhuis (tegenwoordig Atrium Medisch Centrum Heerlen) in Heerlen. Hij bracht zijn jeugd als echte 'Breuker jong' door in het Limburgse Hoensbroek. Daar ging hij achtereenvolgens naar peuterspeelzaal Klein Duimpje, de Alessandro Voltaschool (later Basisschool De Regenboog) en in 1991 haalde hij zijn Havodiploma aan het Broeklandcollege (tegenwoordig Emmacollege). Drie jaar later, in 1994, haalde hij het Vwo-diploma aan het Bernardinuscollege in Heerlen. In datzelfde jaar verruilde hij het mooie Limburg voor Nijmegen, waar hij begon aan de studie psychologie aan de Katholieke Universiteit Nijmegen. Na een zeer gezellige studententijd met veel feesten, jolijt, werk, vertier en studeren ontving hij in 2000 de bul in de Sociale Psychologie. In 2001 begon hij als Aio (Assistent in opleiding) aan de vakgroep Sociale Psychologie in Nijmegen. (Tijdens dit Aioschap veranderde de naam van de universiteit in Radboud Universiteit, waar Raymond uiteraard zeer tevreden mee was.) Met het boekje dat u nu in handen heeft is deze fase afgerond en komt een einde aan zijn 'Nijmeegse periode'. Sinds 2006 werkt hij als onderzoeker bij Prismant (partner van CC Zorgadviseurs en Walvis ConsultingGroep) in Utrecht. In zijn vrije tijd is hij buitensportinstructeur bij Voncken Nature Sport in Sprimont, België.





# On the preference for self-related entities: the role of positive self-associations in implicit egotism effects

The unconscious preference for stimuli that are associated with the self was called *implicit egotism*. The idea underlying implicit egotism is that positive feelings about our self result in positive feelings about anything that is associated with our self. So, the more positive we feel about our self, the more positive we evaluate stimuli that are more or less part of our self. However, although these feelings about oneself are a central and crucial aspect of the theory of implicit egotism, they were not taken into account in the research on implicit egotism so far. In the present thesis the aim was to investigate how people vary in the evaluation of self-associated objects as a function of positivity of self associations.

One contribution of the present thesis is that it shifted the boundaries of what needs to be explained by introducing yet another area in which name letter-related egotism was demonstrated: the overuse of name letters in written texts. Moreover, this dissertation accomplished something that implicit egotism research so far has not been able to do, namely complete the logical argument concerning implicit egotism effects in the sense that it represents a spill-over of positive self-associations to anything that is -one way or another- linked to the self.