

**Self-Regulatory Mechanisms in the Evaluation of Arts:
The Influence of Regulatory Focus and Psychological Distance on Attitudes**

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SUMMARY

The present project examines how self-regulatory mechanisms affect attitudes towards art. Opinions about conventional (e.g., *Mona Lisa* by Leonardo da Vinci) versus unconventional (e.g., *Fountain* by Marcel Duchamp) artworks seem to diverge, however, little is known about the psychological mechanisms. Conventional artworks correspond to a traditional concept of art and are usually characterized by great artistic mastery. Unconventional artworks, on the other hand, are associated with a softening of the traditional concept of art, which makes it sometimes difficult to regard them as such. Moreover, unconventional artworks often transmit abstract concepts, thereby requiring the extraction of meaning. Based on theories and findings from empirical aesthetics it is suggested that a concrete processing mode should lead to more favorable attitudes towards conventional artworks whereas an abstract processing mode should lead to more favorable attitudes towards unconventional objects (Leder, Belke, Oeberst, & Augustin, 2004). Given that there is ample empirical evidence suggesting that a prevention focus bolsters a concrete processing mode and a promotion focus bolsters an abstract processing mode (Förster & Higgins, 2005), it is assumed that regulatory focus should affect attitudes towards conventional versus unconventional objects. It is suggested that one means by which processing modes affect aesthetic appreciation such as liking of artworks is by their impact on categorical processing (Liberman, Sagristano, & Trope, 2002) such as the estimated typicality to a given category. This assumption is based on the preference-for-prototypes model (Martindale, 1988; Whitfield, 1983) which proposes that objects, that are conceived as typical of their kind are liked more than objects that are conceived as untypical of their kind.

We demonstrated in five studies that prevention-oriented individuals evaluate conventional artworks more favorably than promotion-oriented individuals. Promotion-oriented individuals, instead, evaluate unconventional artworks more favorably than participants with

a prevention focus. This applies to typicality (Study 1), behavioral (Study 2), and liking ratings (Study 3). Study 3 and Study 4 further demonstrate that the influence of regulatory focus on affective as well as on behavioral measures is mediated by typicality estimates, which supports our assumption that categorical processing is one means by which regulatory focus influences aesthetic appreciation. To further strengthen the assumption that the mechanism by which regulatory focus affects attitudes is related to processing modes, we conducted an additional study (Study 5) in which another manipulation for processing modes, namely psychological distance, is used (Liberman & Trope, 1998). Notably, varying psychological distance leads to literally the same results as varying regulatory focus, which supports the hypothesis that the mechanism underlying the effects is the difference in processing modes between prevention-oriented and promotion-oriented individuals. In summary, the results support the hypothesis that situational (Studies 1 to 4) as well as chronic (Study 3) regulatory focus have an impact on attitudes towards conventional versus unconventional objects. The results are discussed in the context of empirical aesthetics and regulatory focus literature and future lines of research are elaborated.

INTRODUCTION

“This is not art” or “A three-year old could have created this!”- these are comments people often make when looking at certain contemporary artworks. Similarly, some of these artworks have accidentally been removed or destroyed due to an inability to perceive such objects as art. Joseph Beuys, one of the most influential artists of the last decade, created the installation *Fatcorner* (1982), which was fat piled into a corner of space, left to melt and turn rancid over a number of days. This artwork was furbished and thereby destroyed by a member of the cleaning personnel of the Düsseldorf art academy, obviously because the person did not perceive the object as a provocative piece of contemporary art or did not appreciate its value (“faz.net”, 2006). Other people are very impressed by such unconventional artworks for various reasons such as their potential to transmit abstract concepts. Opinions about more traditional forms of art seem to diverge in a similar manner (“faz.net1”, 2006).

In the present paper, we want to examine psychological mechanisms responsible for different attitudes towards traditional versus contemporary art. We suggest that a motivational variable, namely regulatory focus (Higgins, 1997), has an impact on attitudes towards works of art. Whereas a prevention focus is a motivational orientation towards oughts, duties, and responsibilities, and security, a promotion focus is a motivational orientation towards ideals, hopes, and aspirations. Specifically, we predict that people with a prevention focus have more favorable attitudes towards traditional or conventional art than people with a promotion focus. Promotion-oriented individuals, instead, should have more favorable attitudes towards contemporary or unconventional art than prevention-oriented individuals. We argue that this is, among other reasons, due to a difference in processing modes between people with a prevention focus and people with a promotion focus (Förster & Higgins, 2005). Because conventional artworks often depict very concrete objects in a naturalist manner, a concrete

processing mode should have a positive impact on their evaluation. Unconventional artworks, on the other hand, often transmit abstract concepts not directly apparent at first glance. Hence, an abstract processing mode should enhance appreciation of unconventional artworks (Leder et al., 2004). Given that a prevention focus bolsters a concrete processing mode and a promotion focus bolsters an abstract processing mode (e.g., Keller, Lee, & Sternthal, 2006), each type of focus should lead to different evaluations of conventional and unconventional art.

In a set of studies we will examine whether our assumptions can be confirmed empirically by examining situational as well as chronic focus and by using different attitudes measures capturing cognitive, behavioral, and affective aspects. Moreover, we will investigate whether the predicted effect is limited to artworks or applies to other attitude domains such as food. In addition, in order to determine the mechanism responsible for the postulated relationship between regulatory focus and attitudes, we will examine whether another variable that is supposed to elicit processing modes, namely psychological distance (Liberman & Trope, 1998), has a similar impact on attitudes towards art as does regulatory focus.

THEORETICAL BACKGROUND

We will first introduce the notion of a prevention and promotion focus by detailing the basic assumptions of *Regulatory Focus Theory* (RFT). Afterwards, we will take an imaginary visit to the museum in order to define the kind of artworks we want to investigate. After having introduced our main independent variables, namely regulatory focus and artworks differing in conventionality level, we will discuss models and findings from empirical aesthetics. We will focus on variables that seem to have an impact on the evaluation of conventional versus unconventional artworks, thereby elaborating our hypothesis that processing modes affect aesthetic judgment. Afterwards, we will review selected literature on regulatory focus and those variables that seem to be prerequisites for the appreciation of conventional versus unconventional art. In particular, we will introduce studies demonstrating that regulatory focus might be one means to activate processing modes. By presenting *Construal Level Theory* (CLT), we will introduce the concept of psychological distance, which is supposed to be another variable eliciting processing modes. Finally, we will synthesize empirical aesthetic and regulatory focus research and derive our hypotheses.

Regulatory Focus as a Distinctive Characteristic of Human Beings

RFT advanced by Tory Higgins (1997, 1998) distinguishes between two kinds of self-regulatory systems: one that represents goals as responsibilities and safety (*prevention focus*) and one that represents goals as aspirations and accomplishments (*promotion focus*). Prevention-oriented individuals are sensitive to the presence or absence of negative outcomes (losses vs. non-losses) whereas promotion-oriented individuals are sensitive to the presence or absence of positive outcomes (gains vs. non-gains). Higgins (1997) details in his theory that the distinct regulatory systems can either be induced situationally (situational focus; Friedman & Förster, 2001) or that they are present chronically (chronic focus; Higgins, Shah, & Friedman, 1997). An example for a situationally induced focus would be a graduate

student who wants to write his PhD thesis in order to avoid future unemployment. Because this student focuses on negative outcomes, namely uncertainty, insecurity, or poverty, his self-regulatory style is a prevention focus characterized by goals dealing with protection and safety matters, duties and responsibilities (oughts). Another graduate student, in contrast, wants to write his PhD thesis in order to advance professionally. In this case, the student focuses on positive outcomes, namely personal development, professional advancement, and reputation. His self-regulatory style is a promotion focus that is characterized by goals dealing with advancement and accomplishments, hopes and aspirations (ideals). Thus, situational foci arise because of certain characteristics of the current situation, in this case because of temporarily focusing on negative outcomes (i.e., unemployment) versus focusing on positive outcomes (i.e., professional advancement). Chronic foci, on the other hand, may evolve as a difference in early interaction experiences (Higgins, 1987, 1997). For example, a student might have acquired strong chronic prevention concerns of duties because of security parenting with an emphasis on the presence (i.e., criticism) or absence of negative outcomes (i.e., safeguarding). A different student might have acquired strong chronic promotion concerns of hopes because of nurturing parenting with an emphasis on the presence (i.e., bolstering) or absence of positive outcomes (i.e., withholding of affection).

Because prevention-oriented individuals are concerned with negative outcomes, they use avoidance strategies (i.e., being vigilant) to ensure against errors. Promotion-oriented individuals are concerned with positive outcomes and, thus, prefer eager approach strategies (i.e., willing to take risks) to ensure hits (Crowe & Higgins, 1997). This notion has also received empirical support: Crowe and Higgins (1997, Study 2), for example, varied regulatory focus by framing a signal detection task, in this case a word recognition memory task, differently. Participants in the prevention condition received a task framing focused on negative outcomes (“as long as you do not do poorly on the word recognition memory task [...], you won’t get to do [the participant’s disliked task]”), while participants in the

promotion condition received a task framing focused on positive outcomes (“If you do well on the word recognition memory task [...], you will get to do [the participant’s liked task]”)¹. After having been exposed to nonsense words, participants received a new list of nonsense words and had to decide whether they had seen a nonsense word before (“yes”) or not (“no”). In line with their predictions, participants with a prevention focus had a conservative response bias as reflected by saying “no”, while participants with a promotion focus had a risky response bias as reflected by saying “yes”. This prevention-related *vigilance* and promotion-related *eagerness*, in turn, is supposed to influence a variety of variables. It is important to note that some of these variables seem to play a crucial role in aesthetic judgment. We will first determine these variables by presenting findings from empirical aesthetics and relate them to regulatory focus in a later section.

Conventionality as a Distinctive Characteristic of Artworks

Imagine you visit a museum and see *Cardinal Albrecht* by Lucas Cranach the elder (1525, Hessisches Landesmuseum, Darmstadt), a painting depicting with a near photographic appearance a distinguished erudite sitting in his study room (“Lucas Cranach”, 2006). As you move further and reach the 20th century art section, you discover the *Chair with Fat* by Joseph Beuys (1963, Hessisches Landesmuseum, Darmstadt), a real wooden chair covered with a huge block of fat (“Joseph Beuys”, 2006). Imagine, you do not know anything about either artwork and there is no explanatory information given. Which one would you prefer? And why? One salient distinction between the objects might be whether they correspond to a conventional or unconventional definition of art. *Conventional² artworks*, like *Cardinal Albrecht*, imply a traditional perspective of art and represent what one might consider as typical art: they usually depict something easily recognized and are often associated with academic art. Academic art means that the artist worked (painted / drew / sculptured)

¹ Note that these focus manipulations were also balanced for valence.

according to the rules taught at art academies (“Academic Art”, 2005). Hence, conventional artwork usually allows for conclusions about the artist’s skills and meets certain aesthetic standards. Conventional art is closely linked to what art historians would call representational art (Kleiner, Mamyia, & Tansey, 2001). *Unconventional artworks*, as *Chair with Fat*, are associated with a “softening” of the traditional concept of art because this art is not limited by materials or methodology. It may use not only traditional forms such as painting, drawing, and sculpture, but may also involve performance, installation, or video, to name a few. In unconventional art, the use of everyday objects is quite common, which might lead to them being indistinguishable from their real life counterparts. Hence, unconventional artwork may seem rather atypical. In addition, it often transmits abstract concepts that are not directly apparent in the artwork itself. Unconventional art is closely related to what art historians would call contemporary art (Kleiner et al., 2001). In the present project, the classification of an artwork as conventional versus unconventional is determined by asking participants for the conventionality level of the artworks and by relating this to other dimensions, which will be detailed in a later section. Hence, conventionality as used here is grounded on a consensual definition (Amabile, 1982).

The use of conventional levels instead of artistic epochs (i.e., contemporary) is due to the fact that every epoch also has artistic exceptions. For example, Renaissance art often includes quite unconventional artworks (i.e., *The Garden of Earthly Delight*, 1504, by Hieronymus Bosch, Museo del Prado, Madrid), while contemporary art often includes quite traditional, rather representational artworks (i.e., *Portrait of Nick Wilder*, 1966, by David Hockney, Private Collection). Moreover, the concept of conventionality allows us to apply our hypotheses to objects other than art.

² Note that from now on we will use the abbreviated forms for “corresponding to a conventional versus unconventional definition of art” by using “conventional” versus “unconventional”.

Empirical Aesthetics

Having discussed these terminological points, let us return to our initial question of research: What variables influence attitudes towards conventional versus unconventional artworks? For a long time, research in empirical aesthetics placed its emphasis on artworks' inherent, perceptual variables, such as complexity, contrast, symmetry, order, and grouping (Leder et al., 2004). Several studies have underlined the importance of these variables by showing that slight variations already lead to strong changes in aesthetic judgment (e.g., Frith & Nias, 1974). However, some unconventional art provides rather abstract concepts instead of pure beauty. Thus, in order to fully understand *why* such artworks are appreciated, one cannot simply alter certain perceptual features. For example, adding or subtracting symmetry or contrast in case of the *Chair with Fat* would probably not lead to significantly more or less aesthetic appreciation on the side of the perceiver. Here, looking at features of the artwork beyond perceptual characteristics, for example concepts it transmits (Leder et al., 2004) or its novelty (Berlyne, 1974), becomes increasingly important. In addition, examining characteristics of the observer should be a valuable source of information for aesthetic judgment. Let us have a closer look at observer variables and their *interaction* with artwork inherent variables like conventionality level. We will present two clusters of variables on the side of the observer variables, namely strategic inclinations and processing modes.

The Role of Strategic Inclinations in Aesthetic Judgment

As detailed above, a conventional object by definition represents something “in accord with or being a tradition or practice accepted from the past” (“conventional”, 2006). Considering this, it is likely that variables such as a positive reception of tradition and stability might lead to appreciation of conventional art, while variables such as striving for variation and novelty might lead to appreciation of unconventional art. We call these variables *strategic inclinations* since they all deal with strategic considerations on how to deal with a task or an object (Seibt & Förster, 2004).

In empirical aesthetics, strategic inclinations have usually been made operational by classical personality measurements. For example, Rawlings and Bastian (2002) examined the influence of motivational dispositions, namely the Behavioral Inhibition System (BIS) versus the Behavioral Approach System (BAS, Gray, 1991) measured by the BIS/BAS questionnaire (Carver & White, 1994), on aesthetic judgment. In short, the BIS-scale captures sensitivity to punishment cues, the BAS-scale sensitivity to reward cues. Results of a regression analysis indicated that the BAS-scale, but not the BIS-scale, was a predictor for liking of abstract (i.e., unconventional) paintings such as works by Joseph Stella (i.e., *Battle of Lights*, 1914, Yale University Art Gallery, New Haven). Similarly, Rawlings (2000, Study 2; see also Wilson, Ausman, & Matthews, 1973) measured openness to experience, the dispositional tendency to be open-minded in terms of new perspectives with regard to imagination, ideas, values, and aesthetic experiences (McCrae, 1994), by the respective scale of the NEO Five-Factor Inventory (NEO-FFI, Costa & McCrae, 1992). Participants were asked to indicate their liking for either representational (i.e., conventional) versus abstract (i.e., unconventional) paintings on a dichotomous scale (like/dislike). Results of a regression analysis indicated that openness to experience was a potential predictor for liking of abstract stimuli, but not for representational paintings (see also Feist & Brady, 2004). Similar result patterns were found when sensation seeking, defined as “the individual’s need for varied, novel and complex sensation, experiences and the willingness to take [...] risks” (Furnham & Walker, 2001, p. 67), was assessed (Furnham & Bunyan, 1988): the overall sensation seeking score, captured by the Sensation Seeking Scale (SSS; Zuckerman, 1979), was positively correlated with abstract art preferences and negatively correlated with representational art preferences (see also Zuckerman, Ulrich, & McLaughlin, 1993). Furnham and Bunyam (1988) interpret their results in terms of a higher receptivity to novel stimuli by high sensation seekers than by low sensation seekers.

To summarize, if we consider abstract artworks as a mild form of unconventional art, the cited studies converge in indicating that an interest in variation and novelty might be one important factor for the appreciation of unconventional art. More specifically, it can be said that liking of unconventional art can be associated with the approach system, openness to experience, and sensation seeking. As we will see in a later section, these variables are closely linked to a promotion focus (Crowe & Higgins, 1997; Förster, Higgins, & Idson, 1998; Liberman, Idson, Camacho, & Higgins, 1999).

The Role of Processing Modes in Aesthetic Judgment

Besides strategic inclinations, the notion of a concrete versus abstract processing mode should be useful for understanding attitudes towards conventional versus unconventional art. Generally, a processing mode reflects the way information about an object, event, or action is perceived and operated with (Förster, 2006). We refer to the term processing *mode*, because we assume that it can change with the situation (Liberman & Trope, 1998). A *concrete processing mode* is associated with the tendency to look at information in a local, exclusive manner and to stick to the concrete features. An *abstract processing mode*, on the other hand, is associated with the tendency to look at information in a global, inclusive manner and to go beyond the information given. Going beyond the information given is assumed to involve the extraction of meaning and the generation of new meaning (for similar conceptualizations see Förster, 2006; Kuschel & Förster, 2006; Liberman, Trope, & Stephan, 2005; Smith & Trope, in press). Given that conventional artworks such as *Cardinal Albrecht* usually depict real life objects in an academic manner and with almost photographic precision, a concrete processing mode with its focus on concrete percepts should fulfill the processing requirements for appreciating conventional artworks better than an abstract processing mode. Unconventional artworks such as *Chair with Fat* might be considered atypical exemplars for art. In order to appreciate them, broad, inclusive categories for art might be an important prerequisite. Moreover, unconventional artworks often transmit abstract concepts and require the

extraction of meaning. Hence, an abstract processing mode should fulfill the processing requirements for appreciating unconventional artworks better than a concrete processing mode.

To the best of our knowledge, the assumption of a relationship between processing modes and art evaluation has not been subject to direct examination yet. However, processing modes and in particular processes related to an abstract processing mode, have received some attention in theoretical papers of aesthetics. For example, Leder et al. (2004, p. 489; Tyler, 1999) recently published a *model of aesthetic appreciation* explicitly offering an explanation why unconventional art with its “individualized styles, innovativeness and conceptuality” leads to aesthetic appreciation. According to this model, unconventional art often does not provide obvious meaning. When no hints (i.e., having knowledge about the artwork or getting information on it) are given, it requires interpretation and a search for meaning, a process Leder et al. (2004, p. 498) call “cognitive mastering”. Similarly, Dewey (1934, p. 54) stated that the beholder of an artwork must engage in an “act of abstraction of what is significant”. Because “cognitive mastering” and “an act of abstraction” encompass the search for meaning, it can be assumed that both are associated with an abstract processing mode.

We would like to suggest that important processes related to an abstract processing mode are mental distancing and creative thinking (Lieberman et al., 2005; Ward, 1995). Already the influential art historian Erwin Panofsky (1955, p. 24) stated that “to grasp reality we have to detach ourselves from the present”. In line with that, construal level theory (Lieberman & Trope, 1998; Trope & Liberman, 2003), which will be detailed in a later section, suggests that mentally distancing oneself from the concrete characteristics of an object, for example from the concrete material of the *Chair with Fat* (i.e., wood and fat), is an important prerequisite in order to go beyond the information given and extract its meaning. Furthermore, one might consider that the abstraction of meaning involves creative thinking (Ward, 1995). The art theorist and perceptual psychologist Rudolf Arnheim (1969) compares

art perception with a creative problem solving process (see also Cupchik & Gebotys, 1990; Gombrich, 1960). For example, when looking at the *Chair with Fat*, the generation of creative hypotheses, a distinctive characteristic of creativity (Guilford, 1967; Schooler & Melcher, 1995), might be helpful in order to appreciate it. The artist of *Chair with Fat* himself, Joseph Beuys, agreed with this notion in his famous statement “art is a riddle, man is the answer” (Beuys, 1986, p. 38). The processes mentioned above, namely distancing and creative thinking, are both related to processing modes. As we will see later, varying psychological distance is one way to activate processing modes (Liberma & Trope, 1998). Creativity, on the other hand, is said to profit from abstract processing (Ward, 1995).

We would like to propose two means by which processing modes influence aesthetic appreciation (e.g., liking of artworks) differentially, namely meaning extraction and categorical processing. The decision to focus on these two mechanisms is based on the findings of several studies showing that both, meaning extraction and categorical processing are influenced by processing modes (Liberma & Trope, 1998; Liberma et al., 2002), and both affect aesthetic appreciation (Cupchik & Gebotys, 1988; Martindale & Moore, 1988).

Meaning Extraction

Meaning as intended in the present project refers to whether the beholder of an artwork can make sense of it, no matter whether this taps the “correct” meaning or not. Higher perceived meaning of an artwork can be achieved in different ways. For instance, having art-related knowledge that locates an artwork in a broader framework increases meaningfulness (Cupchik, Shereck, & Spiegel, 1994). We assume, however, that meaningfulness is not always or exclusively experience or knowledge-based. Because the present project refers to a naïve audience, that is not supposed to have expert knowledge with regard to art, meaning extraction as influenced by processing modes might be of particular importance for the evaluation of artworks: There are substantial theoretical reasoning and empirical findings that individuals with a concrete processing mode stick to the concrete features of a given

stimulus, whereas individuals with an abstract processing mode go beyond the concrete percepts, thereby extracting meaning of a given stimulus (Lieberman et al., 2005; Förster, Friedman, & Liberman, 2004). Thus, a concrete processing mode might lead only to enhanced meaning of those stimuli for which the concrete particularities and details are an important source of meaning. For example, when looking at traffic signs it is important to focus on the very concrete percepts in order to distinguish whether a traffic sign indicates a steep uphill or downhill slope. For stimuli transmitting abstract concepts, instead, a concrete processing mode might make alternative interpretations less accessible because of sticking to the concrete percepts: this might impede the detection of the hidden meaning (Ward, 1995). Thus, going beyond the information given, which is associated with an abstract processing mode, signifies omitting the features that are perceived to be less important (e.g., irrelevant details such as the color of a car) while retaining those considered more central or crucial to the abstract construct in question (e.g., the safety of a car; Liberman et al., 2005).

One might consider that conventional objects usually provide obvious meaning³ while unconventional objects do not (Leder et al., 2004). *Cardinal Albrecht* has a recognizable content, namely an erudite sitting in a study room, that transmits obvious meaningful information (Winston & Cupchik, 1992). In this case, people with a concrete processing mode with its focus on the concrete percepts might associate immediate meaning with it. Unconventional artworks, instead, often transmit abstract concepts which require the extraction of meaning. For instance, Russell and Milne (1997) found a negative correlation between abstractness and perceived meaningfulness. It is important to note that just like conventional artworks, also unconventional artworks might have a recognizable content (e.g., *Chair with Fat* by Joseph Beuys), while others might not (e.g., *Untitled No. 7* by Agnes

³ We refer to *obvious* meaning because as with unconventional artworks, many conventional artworks have a hidden meaning, which is not obvious at first glance. The obvious meaning of *Cardinal Albrecht* might be that the cardinal is an educated man as shown by the study room. However, this painting has many hidden layers of meaning, too: the depiction of a lion in the painting, for example, indicates that cardinal Albrecht is represented by St. Jerome (because the lion is one of the attributes of St. Jerome) (“Lucas Cranach”, 2006).

Martin). For example, *Chair with Fat* has a clear recognizable content, namely a “chair” and “fat” and it can be strongly assumed that the beholder of the *Chair with Fat* associates some meaning with it. However, it is quite likely that this meaning could be perceived as irreverent or cynical and might be incongruent with what one expects from an artwork. Hence, unconventional artworks might be readily interpretable within the individual’s existing meaning structures and at the same time clearly oppose them: in this case the beholder might have to ignore or suppress highly accessible constructs such as “fat” and come up with new interpretations (e.g., Bink & Marsh, 2000; Förster et al., 2004). Meaning as intended in this case is not obvious at first glance and further cognitive effort is necessary to extract meaning in order to appreciate such artworks. In contrast to *Chair with Fat*, *Untitled No. 7* by Agnes Martin (1997, Private Collection), a quadratic painting capturing pastel colored stripes on a white background, does not have a recognizable content. In this case, the beholder might not have to battle against highly accessible interpretations but still has to come up with new solutions. To summarize, in order to “understand” unconventional artwork, one needs to integrate information, extract meaning, and/or generate new meaning which is associated with an abstract processing mode (Liberman & Trope, 1998). Considering all this, we propose that people differing in processing modes might regard artworks varying in conventionality as differently meaningful: people with a concrete processing mode might consider conventional art as more meaningful compared to people with an abstract processing mode, whereas for unconventional artworks the reverse should be true.

Meaning in Aesthetic Judgment - Empirical Findings

There is substantial evidence that meaning is an important source for aesthetic appreciation. First and foremost, naïve viewers tend to rely strongly on the artwork’s expressive and representational content (Cupchik & Gebotys, 1988; Winston & Cupchik, 1992) in the sense of “what is the painting or sculpture of?” (Landau, Greenberg, Solomon, Pyszczynski, & Martens, in press). For example, Martindale (1988) found that superficial content and hence

obvious meaning accounts for more of the variance in untrained viewers' aesthetic preferences than other sensory properties of the artwork. Moreover, studies measuring the amount of meaning one associates with an artwork, or manipulating the amount of meaning one is provided with regarding the piece, indicate that higher meaningfulness is generally associated with higher aesthetic appreciation (Baltissen & Ostermann, 1998; Cupchik & Gebotys, 1988; Martindale, Moore, & Borkum, 1990). As detailed above, conventional artworks usually provide obvious meaning because of their representational content whereas unconventional artworks usually do not. Hence, it can be assumed that enriching "meaningless", unconventional stimuli with meaning should enhance appreciation of them. This hypothesis is supported by studies from Cupchik et al. (1994): the authors found that information that locates an artwork within a broader framework of social meaning increased aesthetic appreciation. This effect was especially pronounced for rhetorical (i.e., unconventional) artworks compared to narrative (i.e., conventional) artworks (see also Russell, 2003; Temme, 1992). Titles appear to have a similar effect on art appreciation as meaningful information does (i.e., Landau et al., in press; Millis, 2001).

Categorical Processing

Another means by which processing modes influence aesthetic appreciation might be by their impact on categorical processing. In the present project, categorical processing refers to *whether* and *to what extent* an object is a member of a given category. One might consider that conventional artworks represent typical exemplars for the category art, while unconventional artworks represent atypical exemplars. Thus, the decision of whether an artwork belongs to the category art seems to be particularly important for the appreciation of unconventional art where "nearly every conceivable kind of object has been used as art, from artist's blood to elephant dung" (Leder et al., 2004, p. 491).

Because categories can vary in abstraction level (Mervis & Rosch, 1981), that is that broad categories are more abstract than narrow categories, it can be strongly assumed that

processing modes influence category breadth: a concrete processing mode should lead to narrow categories, an abstract processing mode to broad categories. For example, in feature-based theories of categorization (Rosch, 1975; Rosch & Lloyd, 1978), more abstract categories (e.g., mammal) have fewer features and are hence more inclusive than concrete ones (e.g., poodle). Applying this to the present project, the concrete concept “art: decoration of the world” (Wilhelm Busch as cited in Mäckler, 2003, p. 83) should be associated with a narrow category for art, whereas the abstract concept “art is free” (Richard Wagner as cited in Mäckler, 2003, p. 134) should be associated with a broad, inclusive category for art. Thus, someone with such a broad conception about art might not have difficulties including the *Chair with Fat* into the art category. The notion of processing modes influencing category breadth has also received empirical support, which will be detailed in a later section (Liberman et al., 2002; Nussbaum, Liberman, & Trope, in press).

Categorical processing refers also to the extent to which a piece is regarded as typical for the category art. Whereas for unconventional artwork the predictions are quite clear-cut because of the well-documented difference in category breadth between a concrete and an abstract processing mode (e.g., Liberman et al., 2002), for conventional artwork they are not. Because of the particular fit between the processing requirements of conventional artworks and the characteristics of a concrete processing mode, we assume that conventional artworks are considered as more typical when in a concrete processing mode compared to an abstract processing mode. However, this is speculative at this point of time because preliminary empirical evidence is lacking. In summary, because processing modes seem to influence categorical processing (Liberman et al., 2002), it can be strongly assumed that processing modes differentially influence typicality ratings of conventional versus unconventional artworks.

The Preference-for-Prototypes Phenomenon

Because the borders between art and non-art have shifted and have become somewhat blurred, an initial categorization of an artwork as art might be a crucial prerequisite for its appreciation (see introductory example). It is likely that art itself has a positive connotation, thus, it can be assumed that as soon as an artwork such as *Chair with Fat* is viewed as art, it is also appreciated. Vice versa, when an artwork is not regarded as art, it is probably not appreciated. Applying this to the present project, including unconventional artworks to the category art should be associated with an enhanced appreciation of them. Moreover, one might consider that the more typical an artwork is considered, the more it is appreciated. Notably, there is not only anecdotal evidence for this (“faz.net”, 2006), but also a whole branch of research dealing with this preference-for-prototypes phenomenon (Martindale, 1984, 1988; Whitfield, 1983, 2000), supporting that objects that are thought of as typical of their kind, are liked more than those that are conceived to be atypical of their kind.

The *preference-for-prototypes model* by Whitfield and Slatter (1979; Whitfield, 1983) states that aesthetic appraisal of objects from natural everyday categories is a function of how prototypical they are. The closer they match the category prototype, the more they will be preferred. A prototype can be defined as the “best example of a category” or the “clearest case” (Rosch & Mervis, 1975, p. 574) and can serve as a benchmark against which the surrounding poorer instances are categorized. Martindale (1988) has elaborated the preference-for-prototypes model to the *cognitive theory of aesthetic preference* (Martindale, 1988; Martindale & Moore, 1988; Martindale, Moore, & West, 1988) by specifying the processes underlying the preference-for-prototypes effect. Based on semantic network models (McClelland & Rumelhart, 1981), aesthetic preference is assumed to be a positive function of the degree to which a mental representation of a stimulus is activated. Martindale, Moore, and Anderson (2005) argue that preference should be positively related to prototypicality, as mental representations of typical stimuli are activated more strongly because of a more

frequent activation. However, Martindale et al. (2005) do not directly specify *why* a stronger activation leads to increased preference. Because Martindale et al. (1988, p. 81) view prototypicality as an index of “exposure frequency”, one could imagine that the relationship between prototypicality and liking is mediated by processing fluency; stimuli that have been activated more frequently are easier to process. In fact, there are several researchers who assume that increased processing fluency leads to enhanced aesthetic appreciation. For example, Reber, Schwarz, and Winkielman (2004) suggest that aesthetic experience is a function of the perceiver’s processing dynamics: the more fluently a perceiver can process an object, the more positive the aesthetic response (for a similar point see Aaker & Lee, 2004). This notion has also received empirical support (for an overview see Reber et al., 2004). Besides exposure frequency, prototypicality has been conceived of as an index of “meaning” (Martindale et al., 1988, p. 82), which is in line with other researchers who consider meaning as one determinant of typicality (Loken & Ward, 1990). This would mean that typical stimuli are liked more than atypical ones because they transmit more meaning, which ties in with our ideas regarding the role of meaning in aesthetic judgment presented above.

Categorical Processing in Aesthetic Judgment - Empirical Findings

There are numerous studies demonstrating that categorical processing has an impact on aesthetic appreciation such as liking ratings. In particular, researchers found a positive monotonic linear relationship between prototypicality and aesthetic evaluations of faces (Tversky & Baratz, 1985), furniture (Whitfield, 1983), interior designs (Pedersen, 1986), houses (Purcell, 1984), music (J. D. Smith & Melara, 1990), colors and forms (Martindale et al., 1990), and most importantly for the present project for surrealist (Farkas, 2002) and cubist paintings (Hekkert & van Wieringen, 1990). In some studies prototypicality was determined by a predefined, objective criterion like degree of saturation of colors with more saturated colors being more prototypical and more liked (Martindale et al., 1990). In other studies, a subjective definition of prototypicality was used. For example, Hekkert and van

Wieringen (1990) made prototypicality operational by asking participants to rate cubist paintings on a scale ranging from “poor photographic likeness to a human being” to “good photographic likeness to a human being” with the latter being more prototypical and more liked. In our opinion, it remains unclear whether photographic likeness is a good indicator for prototypicality of cubist paintings rather than an index for degree of realism. Hence, it seems as if in studies examining prototypicality not only the reference category varies to some degree (i.e., degree of color saturation vs. degree of realism) but also the way in which prototypicality is determined (objective vs. subjective criterion).

To summarize, the relationship between prototypicality and aesthetic appreciation seems to be a stable phenomenon. However, theory and research in aesthetics on prototypicality have several limitations (for an overview see Boselie, 1991, 1996; Hekkert & Snelders, 1991). In particular, the determinants of prototypicality are somewhat fuzzy (for a similar argument see Loken & Ward, 1990; North & Hargreaves, 2000), ranging from an index of exposure frequency to an index of meaning (Martindale et al., 1988). It also remains open what the mechanisms behind the link between prototypicality and liking are. Finally, usually no artworks have been used in the studies testing the preference-for-prototypes model; when artworks were used (Farkas, 2002; Hekkert & van Wieringen, 1990), the operationalization of prototypicality did not always seem to be straightforward (Hekkert & van Wieringen, 1990).

Conclusions Empirical Aesthetics

To summarize the section on variables influencing attitudes towards conventional versus unconventional art, appreciation for unconventional art seems to be associated with strategic inclinations such as an approach motivation (Rawlings & Bastian, 2002), openness to experience (Rawlings, 2000), and sensation seeking (Furnham & Bunyan, 1988). In addition, it can be assumed that a concrete processing mode with its focus on concrete percepts should fulfill the processing requirements for the appreciation of conventional artworks because the latter often depict real life objects with almost photographic precision. Conversely, an

abstract processing mode should fulfill the processing requirements for appreciating unconventional artworks by extracting the meaning and going beyond the information given. The relationship between processing modes and appreciation of conventional versus unconventional art is supposed to be mediated at least partly by perceived meaning and typicality of an artwork.

We suggest that regulatory focus theory (Higgins, 1997) might be a powerful framework to test these assumptions and allow at the same time further predictions. Moreover, focus can be conceived of as a context-dependent variable as well as a personality disposition, enabling us to test our hypotheses for situational as well as for chronic regulatory focus. Several studies suggest that regulatory focus has an influence on strategic inclinations (Liberian et al., 1999). In addition, there is substantial evidence that regulatory focus bolsters processing modes (Keller et al., 2006). In particular, regulatory focus has an impact on meaning extraction (Kuschel & Förster, 2006) and categorization processes (Friedman & Förster, 2000).

Regulatory Focus Theory

After having introduced the main assumptions of regulatory focus theory (RFT) in an earlier section, we now want to introduce findings of regulatory focus research. Even though there is an extensive body of research on RFT (for a review see Higgins, 2000), in the present article we will focus only on a few studies, namely those that deal with the influence of regulatory focus on variables that seem to be important prerequisites for the appreciation of conventional versus unconventional art⁴.

⁴ Note that in some of the studies reported (e.g., Friedman & Förster, 2000), instead of regulatory foci motivational orientations, namely *avoidance* and *approach* motivation, were manipulated. To do so, participants were asked to either perform arm extension by pressing their palm on top of the table (*avoidance*) or to perform arm flexion by pressing their palm against the underside of the table (*approach*; Cacioppo, Priester, & Berntson, 1993; Priester, Cacioppo, & Petty, 1996). Förster et al. (1998) demonstrated in a series of experiments that an avoidance motivation increased when participants worked towards the goal of losing or not losing an extra dollar for their performance in a task. Importantly, avoidance strength increased even when participants worked towards a positive end state (non-loss). Similarly, approach motivation increased when participants worked towards the goal of gaining or not gaining an extra dollar. Again, approach strength increased even when participants worked towards a negative end state (non-gain) showing that avoidance versus approach were

Regulatory Focus and Strategic Inclinations

Preference for unconventional artworks is associated with strategic inclinations such as an approach motivation, sensation seeking, and openness to experience (Rawlings, 2000). Regulatory focus, in turn, differentially influences strategic inclinations (Crowe & Higgins, 1997). Förster et al. (1998), for example, demonstrated that a prevention focus is associated with an avoidance motivation and a promotion focus is associated with an approach motivation. Moreover, people with a prevention focus are vigilant while people with a promotion focus are willing to take risks (Crowe & Higgins, 1997) and risk taking, in turn, is associated with sensation seeking (Zuckerman, 1979). Combined with the results showing that an approach motivation as well as sensation seeking are associated with a preference for unconventional artworks (Furnham & Bunyam, 1988; Rawlings, 2000), this provides preliminary evidence for our assumption that individuals with a promotion focus might have more favorable attitudes towards unconventional artworks than individuals with a prevention focus. Additionally, Liberman et al. (1999) showed that prevention-oriented individuals were more inclined to keep an object, whereas promotion-oriented individuals preferred to exchange the object for another one (Studies 3 and 5). Applying this to the present project, it can be assumed that a prevention-related preference for stability might enhance appreciation of conventional artworks because they represent a traditional perspective on art. A promotion-related preference for variation and novelties might enhance appreciation for unconventional artworks.

Regulatory Focus and Processing Modes

As detailed above, a concrete processing mode should have a positive impact on appreciating conventional artworks, while an abstract processing mode should have a positive impact on appreciating unconventional artworks. There are several studies demonstrating that regulatory

independent of the valence of the end state. Based on these studies it can be assumed that an avoidance motivation is associated with a prevention focus, whereas an approach motivation is associated with a

focus seems to differentially activate processing modes: a prevention focus seems to elicit a concrete processing mode whereas a promotion focus seems to bolster an abstract processing mode (Förster & Higgins, 2005).

In line with Friedman and Förster (2000, 2001), we assume that the mechanism by which a prevention focus facilitates concrete processing and a promotion focus facilitates abstract processing is related to *cognitive tuning* (Clore, Schwarz, & Conway, 1994; Schwarz & Bless, 1991). The cognitive tuning account proposes that internal states, such as affective (Schwarz & Bless, 1991) or motivational (Friedman & Förster, 2000) ones, inform an individual about the problematic or benign nature of a situation, thereby leading the individual to the adoption of processing modes that meet these situational requirements. A prevention focus may be seen as a cue signaling an insecure, problematic environment, thereby inducing vigilance, which has a positive impact on concrete processing. A promotion focus, on the other hand, may be seen as a cue signaling a benign environment, thereby inducing eagerness, which in turn has a positive impact on abstract processing.

We will introduce some exemplary studies that demonstrate the influence of regulatory focus on *related processes* to processing modes (e.g., analytic vs. creative thinking) as well as on *manifestations* (e.g., level of abstraction) of processing modes, which are also supposed to be important for the appreciation of conventional versus unconventional art. An important prerequisite for the appreciation of unconventional art seems to be the ability to distance oneself from the artwork's concrete features. Distancing, in turn, is supposed to be one means to bolster abstract processing (Liberman et al., 2005). Indirect evidence for the hypothesis that individuals with a prevention focus stick to the concrete features, while individuals with a promotion focus are capable to mentally distance is given by studies from Pennington and Roese (2003; see also Freitas, Salovey, & Liberman, 2001, Study 1). The authors found that a

promotion focus. Hence, the following results from avoidance/approach research can be taken as an indirect evidence for regulatory focus research.

prevention focus is associated with assigning importance to proximal, concrete future events, while a promotion focus is associated with assigning importance to distant future events. Similarly, Förster and Higgins (2005; Förster, Friedman, Özelsel, & Denzler, in press) demonstrated that participants with a prevention focus perceive a stimulus in terms of its concrete features, whereas people with a promotion focus perceive a stimulus in terms of its global shape.

Further indirect evidence for the relationship between regulatory focus and processing modes comes from studies examining the influence of regulatory focus on analytic versus creative thinking (Friedman & Förster, 2001). Analytic reasoning is supposed to profit from a detailed-oriented, concrete processing mode (Schwarz & Bless, 1991), whereas creativity is supposed to profit from abstract processing (Förster et al., 2004; Ward, 1995) and understanding art, and particularly unconventional art, has been compared with a creative problem solving process (Arnheim, 1969). In a series of experiments, Friedman and Förster (2000, 2001, 2002) tested whether a prevention focus reinforces analytic thinking and whether a promotion focus boosts creative thinking. In line with their hypotheses, Friedman and Förster (2000) found that participants with an avoidance motivation (i.e., prevention focus) outperformed participants with an approach motivation (i.e., promotion focus) in analytic reasoning as tested in four logic problems from Graduate Record Examinations (GRE). Friedman and Förster (2001) demonstrated that participants with a promotion focus outperformed participants with a prevention focus in various creativity tasks. The authors varied regulatory focus by having participants work through a paper and pencil maze in which they had to find the way for a cartoon mouse that was depicted in the center of the maze. In the prevention condition, the goal was to lead this mouse out of the labyrinth in order to escape from a cartoon owl that was hovering over the maze. Completion of this maze is assumed to activate the semantic concept of seeking security as well as to procedurally prime avoiding threat. In the promotion condition, the goal was to lead the mouse to a piece

of cheese that could be found at the exit of the maze. This is assumed to activate the semantic concept of seeking nurturance as well as to procedurally prime approaching a reward (Friedman & Förster, 2001; Neumann & Strack, 2000). Participants with a situational promotion focus outperformed participants with a situational prevention focus in tasks requiring creative insight (Snowy Picture Task; Ekstrom, French, Harman, & Dermen, 1976), creative generation (Brick Task; Guilford, 1967, 1986; see also Liberman, Molden, Idson, & Higgins, 2001), and creative problem solving (Gestalt Completion Task; Ekstrom et al., 1976).

Keller et al. (2006; see also Semin, Higgins, de Montes, Estourget, & Valencia, 2005) tested in several studies whether prevention-oriented individuals construe information at a low, concrete level, while promotion-oriented individuals construe information at a high, abstract level. Level of construal, in turn, is supposed to be an outcome of concrete versus abstract processing (Liberman & Trope, 1998). In one of their experiments (Study 1), Keller et al. varied regulatory focus by priming participants with information that emphasizes either losses (prevention focus) or gains (promotion focus). Afterwards, all participants received the Behavioral Identification Form (BIF; Vallacher & Wegner, 1989) that was originally designed to assess stable individual differences in construing an action at a low or a high level. The BIF contains 25 activities, each followed by two restatements, one of them being construed on a low level and one being construed on a high level. “Locking a door”, for example, can be conceived in terms of *how* to lock a door, such as “putting the key in the lock” (*low-level construal*) or in terms of *why* to lock a door, such as “securing the house” (*high-level construal*). In line with the predictions by Keller et al. (2006), participants with a prevention focus construed behaviors at a low level, while participants with a promotion focus construed behaviors at a high level.

So far, we have introduced studies demonstrating that a prevention focus is associated with a variety of cognitive processes and outcomes associated with a concrete processing mode,

which supposedly enhance the appreciation of conventional art, such as looking at a stimulus in terms of its concrete features, analytic reasoning, and construing information on a low abstraction level. A promotion focus, instead, is associated with a variety of cognitive processes and outcomes associated with an abstract processing mode, that supposedly enhance the appreciation of unconventional art, such as distancing, creative thinking, and the tendency to construe information on a high abstraction level. However, several researchers have particularly emphasized that the ability to extract meaning seems to be important for the appreciation of art, especially when art transmits abstract concepts (Leder et al., 2004).

Regulatory Focus and Meaning Extraction

Studies by Kuschel and Förster (2006) provide initial evidence that regulatory focus has an impact on meaning extraction. The authors tested their hypotheses by varying avoidance and approach motivation and then using the perceptual inference paradigm (PIP, Massen & MacLeod, 1992; Mulligan, 2000), which is assumed to distinguish between encoding of perceptual details and encoding of meaning. In the PIP (Massen & MacLeod, 1992; Mulligan, 2000), intact words and masked words are randomly presented on a computer screen. Intact words are presented for 2.5 s while masked words are presented for 100 ms, followed by a mask, in this case a letter string of x's. Even though this mask impairs the perceptibility of the target words, participants are able to identify the displayed words. Afterwards, participants are asked to recall as many words as possible. Intact word recall is associated with memory for the concrete features of a stimulus (i.e., the letter string of a particular word), whereas masked word recall is associated with extraction of the gist of a given stimulus (i.e., the meaning of the word). Kuschel and Förster (2006) found that people with an avoidance motivation recalled more intact than masked words, while participants with an approach motivation recalled more masked than intact words. Because the extraction of a hidden meaning of a given stimulus is supposed to be the result of an abstract processing

mode, it can be assumed that the impact of regulatory focus on the performance in the PIP was mediated by processing modes.

Regulatory Focus and Categorical Processing

As detailed above, we assume that the influence of processing modes on aesthetic appreciation should be, at least in part, mediated by categorical processing. Given that regulatory focus induces processing modes (Förster & Higgins, 2005) and given that processing modes affect category breadth (Liberman et al., 2002), regulatory focus should also influence categorization processes. In fact, several studies have shown a relationship between regulatory focus and categorization processes, as reflected by different measures such as category breadth, similarity versus dissimilarity ratings and goodness-of-fit ratings (Friedman & Förster, 2000). It has generally been demonstrated that participants with a prevention focus use narrow categories, whereas participants with a promotion focus use broad categories.

Keller et al. (2006) used a sorting task to examine the influence of regulatory focus on category breadth. The authors manipulated situational regulatory focus by asking participants to either write about their duties, obligations, and responsibilities (prevention focus), or to write about their hopes, aspirations, and dreams (promotion focus; Freitas & Higgins, 2002). Afterwards, participants were instructed to classify objects into as many categories as they thought appropriate (Liberman et al., 2002). In line with the predictions, participants with a prevention focus used more categories and thus narrower categories to classify their objects than participants with a promotion focus. Keller et al. (2006) interpreted these results in terms of different levels of construal or abstraction; participants with a prevention focus construe information on a low abstraction level and participants with a promotion focus construe information on a high abstraction level.

Sorting objects into different categories might be due to dissimilarity perception, whereas including an object into the same category as another object might be due to similarity perception. Hence, in order to examine the influence of motivational orientations on categorization processes, Seibt, Nussinson, Häfner, and Strack (2005, Study 2) used dissimilarity versus similarity ratings as the dependent variable and found that participants with an avoidance motivation perceived pictures as less similar than participants with an approach motivation.

Also ratings of the fit of atypical exemplars to a given category (goodness-of-fit ratings) are one indicator for categorical processing, because they reflect the extent to which an object is considered as being a category member. Friedman and Förster (2000) conducted a study that tested the influence of motivational orientations on goodness-of-fit ratings that are supposedly closely related to the concept of prototypicality. The authors administered a slightly modified version of the tasks used by Rosch (1975, see also Isen 1987; Isen & Daubman, 1984). Specifically, participants had to rate the goodness-of-fit of typical and atypical exemplars of given categories (i.e., *car* as a typical, *camel* as an atypical exemplar of the category *vehicle*). Results indicated no difference in goodness-of-fit ratings for typical exemplars (i.e., *car*). However, participants in the avoidance condition rated atypical exemplars (i.e., *camel*) as significantly *less* typical for a given category (vehicles) than participants in the approach condition. Friedman and Förster (2000) interpreted these results in terms of cognitive flexibility: moving beyond the specifics (e.g., that a camel does not have wheels) and focusing on the central aspects of an object (e.g., one can also move by sitting on a camel) requires cognitive flexibility that is associated with an abstract processing mode.

Conclusions Regulatory Focus Theory

The reported studies on processing modes provide convergent evidence that a prevention focus might bolster a concrete processing mode, whereas a promotion focus might bolster an abstract processing mode. Thus, it is likely that varying regulatory focus is one method to

activate processing modes. Furthermore, by presenting a variety of processes related to processing modes, a good empirical basis is provided for theorizing about the mechanisms involved in art perception and processing; the findings presented suggest that people with a prevention focus might have a tendency to stick to the details of an artwork (Förster & Higgins, 2005; Pennington & Roese, 2003) and that they might be rather concerned with *how* a piece of art was created (Keller et al., 2006), both of which could be interpreted as putting an emphasis on artistic skills. This concrete way of dealing with art should enhance the appreciation of conventional pieces of art that usually depict things easily recognized and often imply great artistic mastery. One could further speculate that people with a promotion focus might have the tendency to mentally distance themselves from an artwork (Pennington & Roese, 2003), and to perceive it in terms of its global features (Förster & Higgins, 2005). By having a creative approach when being confronted with art (Friedman & Förster, 2001) and by asking *why* the art was created (Keller et al., 2006), promotion-oriented individuals might be rather capable of solving “the artistic riddle” (Beuys, 1986) and of extracting meaning (Kuschel & Förster, 2006). This abstract processing mode or holistic way of dealing with an artwork should enhance the appreciation of unconventional art.

Applying the cited findings on regulatory focus and categorization to the present project, it is assumed that prevention-oriented individuals exclude unconventional artworks (i.e., atypical exemplars), whereas promotion-oriented individuals include them in the category art, which in turn should affect aesthetic appreciation (Martindale, 1988). With regard to conventional artwork, the assumptions are not that clear-cut. In the cited study by Friedman and Förster (2000), no differences were found for typical exemplars. However, considering the particular “fit” between a concrete processing mode and conventional artworks (as opposed to vehicles), it is quite likely that prevention-oriented individuals evaluate conventional art as more typical than promotion-oriented individuals.

Construal Level Theory

Not only regulatory focus seems to differentially activate processing modes, but so does psychological distance (Trope & Liberman, 2003). This relationship is further detailed in construal level theory (CLT) advanced by Liberman and Trope (1998), which deals with the impact of psychological distance on cognitive variables. Psychologically distant things (objects, events) are those that are not present in the direct experience of reality and can refer to four different dimensions, namely temporal distance, spatial distance, social distance, and hypotheticality (Liberman et al., 2005). CLT proposes that near objects or events (e.g., near future situations) are construed on a lower, more concrete level, and that distant events (e.g., distant future situations) are construed on a higher, more abstract level (for an overview see Liberman et al., 2005).

The assumptions of CLT have been tested in a series of experiments (e.g., Förster et al., 2004). For example, Liberman and Trope (1998) administered the BIF (Vallacher & Wegner, 1989) to assess the tendency to construe an action on a low- versus high-level. To manipulate time perspective, a time indicator such as “tomorrow” (proximal condition) or “next year” (distal condition) was added to each activity. In line with the predictions, activities in the proximal future were described on a lower, concrete construal level, while activities in the distal future were described on a higher, abstract construal level.

As detailed above, processing modes are supposed to influence categorization processes. Liberman et al. (2002) examined the influence of temporal distance on category breadth: participants imagined themselves in various situations (i.e., going on a camping trip), either in the near or distant future, and classified objects related to each situation (i.e., tent, sleeping bag) into as many categories as they thought appropriate. In line with the predictions, participants in the near future condition used narrow categories, whereas participants in the distant future condition used broad categories.

In summary, these studies indicate that varying psychological distance might be another way to elicit processing modes. Hence, psychological distance should have a similar impact on attitudes towards conventional versus unconventional artworks as regulatory focus.

Main Hypotheses and Outlook on the Experiments

It is assumed that a prevention focus is related to variables important for the appreciation of conventional art, whereas a promotion focus is related to variables important for the appreciation of unconventional art. We have elaborated a comprehensive theoretical framework on *how* regulatory focus might influence aesthetic judgment. For several reasons, we cannot test all assumptions presented. In the present set of studies we want to particularly investigate the role of processing modes with regard to aesthetic judgment. In particular, we want to examine whether the means by which regulatory focus influences aesthetic appreciation (i.e., liking of artworks) is related to categorical processing (i.e., typicality ratings of artworks). More specifically, we assume that regulatory focus has an influence on typicality estimates of artworks. Given that unconventional artworks are by definition less typical than conventional artworks, we predict that there will be a main effect for level of conventionality; both prevention-oriented and promotion-oriented individuals should consider conventional art as more typical. However, this main effect should be qualified by an interaction: People with a prevention focus should consider conventional artworks as more typical than people with a promotion focus; the reverse should be true for unconventional artworks. In addition, people with a prevention focus should differ from people with a promotion focus with regard to the most typical artwork (i.e., prototype). It is assumed that the prototype of prevention-oriented individuals is more conventional than the prototype of promotion-oriented individuals.

We expect a similar result pattern for other attitude measures besides typicality estimates. Based on the well-documented finding that representational art is preferred over abstract and

contemporary art (Konecni, 1984; McWhinnie, 1987; Millis, 2001; Tobacyk, Bailey, & Myers, 1979), it is predicted that conventional artworks are evaluated more favorably (affectively, behaviorally) than unconventional artworks. This main effect should be qualified by an interaction: prevention-oriented individuals should evaluate conventional objects more favorably (affectively, behaviorally) compared to promotion-oriented individuals. For unconventional artworks the reverse should be true. Considering the preference-for-prototypes phenomenon (Martindale et al., 1988), typicality estimates should mediate the influence of regulatory focus on other attitude measures such as liking ratings and behavioral indicators of attitudes. We will test whether the hypotheses detailed above also account for stimuli other than art. We predict that our hypotheses apply universally, independent of the stimulus material used.

Because the processing requirements of unconventional artworks such as the extraction of meaning are rather cognitive in nature, we assume that the mechanism responsible for the relationship between regulatory focus and attitudes towards artwork is also mainly cognitive. To support this assumption, we will conduct an additional study with a different manipulation for processing modes, namely psychological distance (Liberian et al., 2005). We assume that psychological distance, in this case temporal perspective, should influence attitudes towards conventional versus unconventional art in a similar manner as regulatory focus does.

To test these hypotheses, regulatory focus and conventionality level of the artworks were varied. Regulatory focus was manipulated situationally with the mazes described earlier (Friedman & Förster, 2001), or assessed with the Regulatory Focus Questionnaire (RFQ; Harlow, Friedman, & Higgins, 1997). Conventionality level of the artworks was determined via a pretest and was varied accordingly. Different attitude measures (cognitive, behavioral, affective) served as the dependent variables. In most of the studies, we used a cognitive measure of attitudes, namely goodness-of-fit ratings or what we label *typicality estimates* (Friedman & Förster, 2000). Typicality estimates measured by the question “How typical is

this object for the category art?” are supposed to capture a variety of aspects important for the present project: The first, typicality estimates are one way to measure categorical processing. Given that typicality estimates for atypical exemplars can be interpreted as the lower border of a category, they can serve as an indicator for category breadth. Moreover, typicality estimates reflect the extent to which an object is regarded as a member of a given category. Secondly, typicality estimates are a means to measure the most typical object or prototype. Thirdly, considering the preference-for-prototypes phenomenon (Martindale et al., 1988), typicality estimates should mediate the influence of regulatory foci on other attitude measures such as liking ratings. Fourthly, typicality estimates have important practical implications, in particular for the domain of art. The statement “this is not art!” is reflected in psychometric terms by extremely low typicality ratings.

Before testing our hypotheses, we conducted a pretest in order to select conventional and unconventional artworks and to further specify the meaning of conventionality by relating it to other dimensions. Study 1 aimed to provide first evidence for our hypotheses by manipulating regulatory focus and afterwards assessing typicality estimates of conventional versus unconventional artworks. Study 2 was designed to test whether regulatory focus also had an impact on attitude measures capturing behavioral aspects, in this case the price participants would spend for conventional and unconventional artworks. Study 3 conceptually replicated Study 1 by manipulating regulatory focus and afterwards assessing typicality estimates. Also an affective measure of attitudes, namely liking ratings of conventional versus unconventional artworks, was assessed in Study 3. By doing so, Study 3 examined the dynamics between the different attitude measures, in this case cognitive and affective measures, thereby testing the assumptions of the preference-for-prototypes model (Whitfield, 1983). Moreover, Study 3 tested whether chronic regulatory focus had a similar impact on attitudes as situational regulatory focus by including the RFQ (Harlow et al., 1997). Study 4 examined whether our predictions also accounted for attitude objects other

than art by examining the influence of regulatory focus on attitudes towards conventional versus unconventional dishes. In addition, Study 4 aimed to test whether typicality estimates of dishes mediated the influence of regulatory focus on behavioral attitude measures, in this case the tendency to order a certain dish. Study 5 was conducted to further support our assumption that the process underlying the postulated effects is cognitive, by testing the influence of psychological distance, in this case temporal perspective, on typicality estimates of conventional versus unconventional artworks.

EMPIRICAL FINDINGS

Pretest

In order to select conventional and unconventional artworks and to clarify the concept of conventionality, we conducted two pretests testing 24 pieces of art altogether.

Method

Seventy-three students (42 male, 31 female) from the Bremen area participated in these pretests (33 in the first and 40 in the second pretest). The pretests were conducted at International University Bremen (IUB) and participants received a chocolate bar as compensation. In both pretests, participants received a folder containing prints of twelve artworks, each kept in a transparent plastic binder. These prints were presented in two different orders and it was made sure that the artworks had roughly the same format (circa 9.55 x 7.62 cm). The selection of artworks was based on two criteria: firstly, the artworks should possibly cover the whole range from very conventional to very unconventional and secondly, they should have been created by acknowledged artists. During the pretest, participants were asked to flip the pages and rate these prints with respect to various dimensions on an extra sheet ("Please evaluate the art object regarding the following dimensions") on a scale from 1 to 7 representing the two poles of every single dimension (*not decorative at all - very decorative, not colorful at all - very colorful, very negative - very positive, very simple - very complex, very concrete - very abstract, and very conservative - very innovative*). In addition, participants had to judge the artist on a scale from 1 to 7 with regard to one dimension, namely how skilled (*very unskilled - very skilled*) they considered the artist to be. Finally, participants were asked to indicate to what extent the artwork corresponded to a conventional concept of art ("In your opinion, does this art object correspond to a conventional concept of art?") on a scale from 1 (*not at all*) to 7 (*very much*). The selection of the dimensions described above was based on two criteria: firstly, we did an

extensive literature review in empirical aesthetics to identify critical dimensions that have been used in past research (e.g., O'Hare, 1976). Secondly, we generated possible variables that might be constituents of conventionality level. Stimulus material including prints of all artworks of the pretests as well as of the subsequent studies can be found in the Appendix.

Results

The most conventional objects were found to be *Water Music* ($M = 5.80$, $SD = 1.08$) by Antonio Canaletto (1754, National Gallery of Art, London), *Daphne and Apollo* ($M = 5.67$, $SD = 1.08$) by Gian Lorenzo Bernini (1622, Villa Borghese, Rome), and *Milkmaid* ($M = 5.61$, $SD = 1.17$) by Jan Vermeer (1658, Rijksmuseum, Amsterdam). The most unconventional objects were *Untitled No. 7* ($M = 2.36$, $SD = 1.61$) by Agnes Martin⁵ (1997, Private Collection), *Fountain* ($M = 2.98$, $SD = 1.75$) by Marcel Duchamp (1917, Philadelphia Museum of Art), and *Brillo Boxes* ($M = 3.36$, $SD = 1.78$) by Andy Warhol (1969, Norton Simon Museum, Pasadena). The means for all artworks and dimensions can be found in the Appendix.

After having collected the pretest data, we determined means for every dimension across all artworks. After that, Pearson product-moment correlation coefficients between conventionality level and the other dimensions were calculated to determine the concept of conventionality more precisely. The highest correlations resulted between conventionality level and skillfulness of the artist ($r = .40$, $p < .01$), positivity ($r = .36$, $p < .01$), decorativeness ($r = .30$, $p < .05$), and colorfulness ($r = .30$, $p < .05$). Moreover, a high degree of complexity ($r = .20$, $p = .10$) and a low degree of abstractness ($r = -.15$, $p = .21$) seemed to go along with conventionality, even though the correlation coefficients failed to be significant. Other variables like degree of innovativeness ($r = -.01$, $p = .93$) were not correlated with conventionality level.

⁵ Note that the conventionality level of this artwork was examined in another pretest not reported here. For further information see Appendix A.

Discussion

The results of the pretest are generally in line with our assumptions regarding the constituting features of conventional and unconventional artworks, but also bear some unexpected findings. First of all, given that the highest correlation coefficients are on a medium level ($r = .40$ and $r = .30$), conventionality can be conceived of as a distinct concept.

As reflected in the correlation coefficients, perceived conventionality seems to go along with perceived artistic skill. When looking at *Water Music*, a very conventional artwork, it becomes obvious that the artist Antonio Canaletto was able to paint in an academic manner as reflected by the high mean for artistic skill ($M = 6.10$, $SD = .77$). When looking at the *Fountain* by Marcel Duchamp, on the other hand, no such conclusions can be made about the artist's craftsmanship, which might have led to the low means with regard to artistic skill for this artwork ($M = 2.95$, $SD = 1.45$). Additionally, conventional artworks are regarded as more positive than unconventional artworks. This might be because conventional artworks are also considered as more decorative. This reasoning is supported by the respective correlation coefficients between positivity and decorativeness ($r = .67$, $p < .001$) as well as between conventionality and decorativeness ($r = .30$, $p < .05$).

As outlined in the theoretical part, we assume that unconventional objects often transmit abstract concepts. We thus expected a negative correlation between conventionality and degree of abstraction. Even though the relationship between level of conventionality and degree of abstraction goes in the expected direction, with more conventional artworks being more concrete, this correlation did not become significant ($r = -.15$, $p = .21$). One explanation might be that this dimension was conceived in various ways by our participants, namely in the sense of degree of abstractness of a certain object, extent to which abstract concepts are transmitted, and finally, belongingness to abstract art. For example, artworks such as the *Fountain* by Marcel Duchamp received medium ratings on the scale capturing degree of abstraction, but with very high standard deviations ($M = 2.85$, $SD = 1.93$). This high variation

in ratings is probably due to the fact that some participants rated *Fountain* as very concrete because the object itself is a concrete thing, namely a porcelain urinal. Other participants, instead, rated *Fountain* as very abstract, probably because they conceived it to be an artwork that transmits abstract concepts. The dimension degree of abstraction also bears the risk of being confounded with abstract art, an artistic style starting in the early 20th century usually depicting things in a non-representative, subjective way (Kleiner et al., 2001). In fact, artworks from abstract art such as *Reflection of the Big Dipper* by Jackson Pollock received high abstractness ratings ($M = 6.29$, $SD = 1.15$). Thus, the absence of a significant correlation between conventionality and degree of abstractness might be due to the multidimensionality of the concept abstractness. Hence, future studies need to disentangle these different aspects more thoroughly and should focus in particular on the question of whether the artwork transmits abstract concepts or not.

Surprising results of the pretest were the strong correlation between conventionality and colorfulness as well as complexity and the absence of a correlation between conventionality and degree of innovativeness, which we would like to discuss in the following section. The result that increasing colorfulness seems to be related with increasing conventionality was not predicted. We assume that colorfulness is not necessarily a defining aspect of conventionality. Due to the variety of styles in unconventional art, the use of paintings, a form of expression where color plays an important role, is less common. Hence, colorfulness seems to be related to form of expression (painting vs. sculpture) rather than to conventionality level. Because in the present project unconventional objects have been represented by sculptures that are by nature not colorful, they received lower ratings in colorfulness. The finding that conventionality goes along with complexity is not surprising given that very conventional artworks such as Antonio Canaletto's *Water Music*, one of the artworks with the highest complexity ratings ($M = 6.02$, $SD = .85$), depict things in an almost photographic manner and are, thus, very detailed. Another unexpected result was the missing negative relationship

between conventionality level and innovativeness. From the present data set it seems that artworks that were conceived to be very conservative were also rated as very conventional (e.g., *Milkmaid* by Jan Vermeer). However, artworks that were considered very innovative were often represented by artworks from the classical modern period (Kleiner et al., 2001), which received conventionality ratings on a medium level (e.g., *The Bull* by Pablo Picasso).

To summarize, conventionality seems to go along with perceived artistic mastery and decorativeness. Other dimensions, which were supposed to be negatively related to conventionality level such as degree of abstraction, need to be disentangled in future studies in order to clarify their role more precisely.

Study 1

The present study aimed to collect first evidence for the postulated relationship between regulatory focus and attitudes towards objects varying in conventionality level. As a measure for attitudes we used a cognitive variable, namely typicality estimates. As detailed, typicality estimates are one means to measure categorical processing which, in turn, is supposed to be influenced by processing modes (Liberman & Trope, 1998). In addition, as proposed by the preference-for-prototypes model (Martindale et al., 1988), typicality estimates are assumed to have an impact on other attitude measures such as liking ratings. Hence, this study aimed to establish the relationship between regulatory focus and typicality before investigating the influence of regulatory focus on other attitudes measures in the subsequent studies.

Method

Participants and Design

Twenty-seven (15 male, 12 female) university students from the Bremen area majoring in disciplines other than psychology were recruited. The experiment was conducted at International University Bremen (IUB). Participants were randomly assigned to the experimental conditions that were balanced for gender. They worked in mixed male and female groups of

two to three in two-hour sessions and received 20 Euros as compensation. The experimenters were IUB students from different nations. Because English is the official working language at IUB, experimenters were not always fluent in German. To overcome this problem, a German experimenter was always at hand in case participants had questions. After the entire experimental session was completed, participants were probed for suspicions, debriefed, paid, and thanked for taking part. These steps (sample, setting, time-frame, compensation, gender balance, random group assignment, experimenter, debriefing) apply to all studies reported subsequently.

The present study had a 2 x 2 mixed factorial design with regulatory focus (prevention vs. promotion) as a between participants factor and art type (conventional vs. unconventional) as a within participants factor. The artworks that served as stimulus material were presented in either one of two orders. Typicality estimates of conventional versus unconventional artworks served as the dependent variables.

Stimulus Material

Based on the pretest we computed conventionality means for every artwork and chose three very conventional artworks, namely *Water Music* ($M_{\text{Con}} = 5.80$, $SD_{\text{Con}} = 1.08$) by Antonio Canaletto (1754, National Gallery of Art, London), *Portrait of a Woman* ($M_{\text{Con}} = 5.54$, $SD_{\text{Con}} = 1.34$) by Antonio Pollaiuolo (1470, Museo Poldi Pezzoli, Milan), and *Young Girl with Dog* ($M_{\text{Con}} = 5.35$, $SD_{\text{Con}} = 1.55$) by Antoine Coytel (1710, Musée National du Louvre, Paris); we also chose three very unconventional artworks, namely *Fountain* ($M_{\text{Con}} = 2.98$, $SD_{\text{Con}} = 1.75$) by Marcel Duchamp (1917, Philadelphia Museum of Art), *The Pack* ($M_{\text{Con}} = 3.80$, $SD_{\text{Con}} = 1.42$) by Joseph Beuys (1969, Staatliche Museen Kassel, Kassel), and *The Wedding Gown* ($M_{\text{Con}} = 4.05$, $SD_{\text{Con}} = 1.56$) by Robert Gober (1989, Private Collection). Several analyses of variance (ANOVAs) were computed in order to assure that the difference in conventionality between every possible pair of a conventional and an unconventional art object was statistically significant (all $ps < .001$, all $Fs > 17.43$). We added six objects as fillers (for a

similar procedure see Friedman & Förster, 2000; Isen & Daubman, 1984) that received conventionality ratings in between, namely *South Bank Cycle* by Richard Long (1991, Tate Gallery, London), *Cremaster 5* by Matthew Barney (1997, Guggenheim Museum, New York), *Kontra-Komposition V* by Theo van Doesburg (1924, Private Collection), *Nose* by Alberto Giacometti (1947, Guggenheim Museum, New York), *Reflection of the Big Dipper* by Jackson Pollock (1947, Stedelijk Museum, Amsterdam), and *Countryside* by Erich Heckel (1907, Private Collection). The latter objects were included in order to provide a medium-level anchor and to have more measurement points. In addition, presenting artworks with a broad range of conventionality levels served to keep participants unsuspecting of the research question. All participants received a folder containing twelve pages, each depicting a print of an artwork, which roughly had the dimensions 9.55 x 7.62 cm.

Procedure

Participants completed tasks unrelated to the present experiment for about 100 minutes before doing Study 1. To induce a prevention or a promotion focus, participants worked through the different types of mazes mentioned above (Friedman & Förster, 2001) and were interrupted after one minute. This initial task was allegedly unrelated to the dependent measures that followed. After the focus priming, participants were asked to take part in a study about categorizing artworks. Participants received a folder containing prints of twelve artworks, which they had to rate with regard to their typicality for art (“How typical is this object for the category art?”) on a scale from 1 (*not typical at all*) to 7 (*very typical*). The assessment of the dependent measure was almost identical to the one used by Friedman and Förster (2000; see also Isen, 1987; Isen & Daubman, 1984; Mikulincer, Kedem, & Paz, 1990a, b; Rosch 1975). Afterwards, participants answered a question assessing their current mood (“How do you feel right now?”) on a scale from 1 (*not good at all*) to 7 (*very good*). Because it is assumed that interest in art and knowledge about art might have an influence on attitudes towards art (Leder, 2003), several variables capturing art interest and knowledge were

examined (“How much are you interested in art?”; “How often did you go to art exhibitions in the last half year?”; “Do you know object no. 1, 2, ... 12?”; “Do you know the artist who created object no. 1, 2, ... 12?”). All quantitative control questions were answered on a scale from 1 (*not at all*) to 7 (*very much*).

Results

Typicality Estimates

For each participant, the mean of the typicality estimates for the three conventional artworks and for the three unconventional artworks was computed respectively. The data were analyzed using an ANOVA for mixed designs and are summarized in Table 1. There was a general tendency to consider conventional art ($M = 5.88$, $SD = 1.03$) as more typical than unconventional art ($M = 3.88$, $SD = 1.44$), $F(1,25) = 32.77$, $p < .001$. Confirming our predictions, this main effect was qualified by a significant interaction, $F(1,25) = 7.01$, $p < .01$. Conventional art was rated as more typical when in a prevention focus ($M = 6.50$, $SD = .58$) compared to a promotion focus ($M = 5.38$, $SD = 1.06$). For unconventional art the reverse pattern was found - it was rated as more typical when in a promotion focus ($M = 4.24$, $SD = 1.54$) compared to a prevention focus ($M = 3.42$, $SD = 1.20$). Post hoc tests revealed that the difference between prevention and promotion was highly significant for conventional art, $F(1,25) = 10.81$, $p < .002$, whereas for unconventional art it was marginally significant, $F(1,25) = 2.33$, $p = .07$ (one-tailed). The within-subject differences between ratings of conventional versus unconventional art were significant for the prevention, $F(1,25) = 31.54$, $p < .001$, as well as for the promotion condition, $F(1,25) = 5.33$, $p = .02$, indicating that both considered conventional art as more typical than unconventional art (one-tailed).

We subtracted the mean typicality estimates for unconventional artworks from the mean typicality estimates for conventional objects. These difference values served as an indirect measure for similarity perception, because it can be assumed that low difference ratings reflect high similarity perception between conventional and unconventional artworks with

Table 1

Mean Typicality Ratings as a Function of Art Type and Regulatory Focus (Study 1, N = 27)

Regulatory Focus	Art Type	
	Conventional Art	Unconventional Art
Prevention	6.50 (.58)	3.42 (1.20)
Promotion	5.38 (1.06)	4.24 (1.54)

Note. Standard Deviations for the means are shown in parentheses.

regard to their typicality. Following our calculations above, difference values for participants with a prevention focus ($M = 3.08$, $SD = 1.51$) were significantly higher than for participants with a promotion focus ($M = 1.13$, $SD = 2.16$), $F(1,25) = 7.01$, $p < .01$.

Moreover, participants with a prevention focus differed from participants with a promotion focus with regard to the most typical artwork. Prevention-oriented individuals estimated *Portrait of a Woman* by Antonio Pollaiuolo ($M_{Typ} = 6.67$, $SD_{Typ} = .65$), an artwork that received very high conventionality ratings in the pretest ($M = 5.54$, $SD = 1.34$), as the most typical one, whereas promotion-oriented individuals considered *Countryside* by Erich Heckel ($M_{Typ} = 6.60$, $SD_{Typ} = .51$), an artwork that received conventionality ratings on a high medium level in the pretest ($M = 5.02$, $SD = 1.44$), as the most typical one. An ANOVA showed that the difference in conventionality level between these artworks reached marginal significance, $F(1,40) = 2.94$, $p = .09$ supporting our hypothesis that the prototype for participants with a prevention focus and participants with a promotion focus differs in conventionality level. The mean typicality ratings and standard deviations for every artwork can be found in the Appendix. This applies to all subsequent studies.

Art Interest, Knowledge about the Art Objects, Mood, Order

We first calculated the means for mood ($M = 5.52$, $SD = 1.19$), art interest ($M = 3.76$, $SD = 1.59$), and art knowledge ($M = 0.17$, $SD = 0.14$). The latter represented the mean number of

artworks participants indicated to know. In the present case, roughly one fifth, or two out of twelve artworks were known. Participants indicated that they visited art exhibitions less than one time in the past half year ($M = .68$, $SD = .69$).

The mood question allowed us to assess the possibility of affective consequences of the regulatory focus instructions. Hence, we performed a multivariate analysis of variance (MANOVA) on the mood measure as well as on art interest and knowledge about art. Consistent with previous regulatory focus research (Friedman & Förster, 2001), this analysis revealed no effect of regulatory focus on mood ($F < .55$) or on the other measures ($F_s < 2.82$). We also conducted analyses of covariance (ANCOVAs) on the attitude measures, with regulatory focus as the independent variable, and either mood, art interest, art knowledge, or sequence of stimulus material as a covariate, showing that our primary predicted effects still remained significant ($ps < .05$).

Discussion

The results of this study provide initial support for the assumption that regulatory focus has an influence on attitudes towards conventional versus unconventional objects. When in a prevention focus, conventional artworks were evaluated as more typical compared to a promotion focus. For unconventional artworks, the reverse was true. It is important to note that we yielded these results by using an unrelated task paradigm so that our participants were not aware of our manipulation. This means that very subtle cues can affect attitudes in a strong manner.

Our hypotheses regarding category breadth were also supported. Given that typicality estimates for the atypical exemplars of a category (i.e., unconventional artworks) are one means to reflect category breadth, the results indicate that prevention-oriented individuals use narrower categories than promotion-oriented individuals. Category breadth, in turn, is one indicator for processing modes. Thus, the data provide indirect support for our assumption

that a prevention focus bolsters a concrete processing mode and a promotion focus bolsters an abstract processing mode (Liberian et al., 2002, 2005). Moreover, we showed that the difference in typicality means for conventional minus unconventional artworks was significantly smaller for participants with a promotion focus than for participants with a prevention focus, as reflected by the difference values of typicality estimates. This might be due to the perception of similarities between conventional and unconventional artworks by promotion-oriented individuals, which further contributes to the finding that a prevention focus is associated with dissimilarity perception, whereas a promotion focus is associated with similarity perception (Seibt et al., 2005). In addition, this experiment provides first evidence for our mediation hypothesis (Martindale et al., 1988), because it establishes the relationship between regulatory focus and the potential mediator, namely typicality. We showed successfully that our predicted effect is independent of a current affective state or art interest.

Furthermore, we showed that prevention-oriented considered a highly conventional artwork as the most typical one while promotion-oriented individuals considered a medium conventional artwork as the most typical one. This result provides a first basis for the assumption that prevention-oriented and promotion-oriented individuals also differ with regard to their prototype for art.

It is quite noteworthy that our participants did not seem to be particularly enthusiastic about art. Even though the average interest in art is on a medium level, “hard” facts about their relationship with art give a slightly different picture. Participants indicated visiting an art exhibition once a year on average and knew only two out of twelve artworks. We can assume from this that our participants represent a naïve audience regarding art.

Study 2

Study 2 was designed to test whether a different type of focus priming, namely the use of lose and win instructions, would lead to the same results as priming regulatory focus with mazes (Förster & Higgins, 2005). We also wanted to test whether a similar result pattern emerges when conventional versus unconventional art is varied between participants and not within participants as in the previous study. Moreover, this study aimed to test whether also mild forms of unconventional artworks lead to the predicted results. In particular, we wanted to assess whether conventional versus unconventional artworks with the same form of artistic expression, namely paintings, lead to the same effects. In addition, by matching conventional versus unconventional artworks regarding their decorativeness - and thereby eliminating one defining aspect of conventionality - we wanted to test whether different attitudes between prevention-oriented and promotion-oriented individuals can still be found. To add another attitude measure, a behavioral measure for attitudes towards conventional versus unconventional objects was used. In order to further test whether our effects are mediated by affective variables, we included a questionnaire assessing 12 focus-specific emotions.

Method

Participants and Design

Eighty-five (42 male, 43 female) university students from the Bremen area majoring in disciplines other than psychology were recruited. The study had a 2 x 2 mixed factorial design with both regulatory focus (prevention vs. promotion) and art type (conventional vs. unconventional) as between participants factors. The price in Euro that participants would spend for conventional versus unconventional artworks served as the dependent variable.

Stimulus Material

Altogether four art objects were used in this study: two conventional ones, namely *Water Music* ($M = 5.80$, $SD = 1.08$) by Antonio Canaletto (1754, National Gallery of Art, London) and *Milkmaid* ($M = 5.61$, $SD = 1.17$) by Jan Vermeer (1658, Rijksmuseum, Amsterdam), and

two unconventional ones, namely *Kontra-Komposition V* ($M = 4.37$, $SD = 1.44$) by Theo van Doesburg (1924, Private Collection) and *Orange and Yellow* ($M = 4.52$, $SD = 1.25$) by Mark Rothko (1956, Collection Albright-Know Gallery, Buffalo). *Water Music* ($M = 5.00$, $SD = 1.32$) and *Orange and Yellow* ($M = 4.79$, $SD = 1.62$) received similar decorativeness ratings in the pretest, which were both higher than the decorativeness ratings of *Milkmaid* ($M = 3.88$, $SD = 1.41$) and *Kontra-Komposition V* ($M = 3.71$, $SD = 1.82$) ($ps < .05$). These artworks were printed on white paper and roughly had the dimensions 21.75 x 16.91 cm.

Procedure

The present study was the first one of several unrelated studies. Because the purpose of this study was to get a behavioral measure for attitudes, namely the price participants would spend for an artwork, a cover story was used: participants were asked to imagine that they had received money from their parents that had to be spent exclusively for art objects. Then they were told that they had just received an offer from an auction house and that they could now choose between two art objects. Depending on the condition, participants received a portfolio containing high quality prints of either two conventional or two unconventional art objects and were encouraged to look intensively at the art objects. The pairs of art objects were chosen in a way that one was more decorative than the other, in order to have the majority of participants choose the same object for a better comparability of the data. In addition, we ensured that conventionality levels differed significantly between the conventional and unconventional objects (all F s > 16.35). Similar to the procedure used by Förster and Higgins (2005; see also Higgins, Idson, Freitas, Molden, & Spiegel, 2003), regulatory focus was then manipulated by the way participants were asked to make their choice: in the prevention condition, they had to imagine what they would *lose* in case they did not choose either one of the art objects (“What would you lose in case you deselect the object?”). In the promotion condition, instead, they had to imagine what they would *win* in case they chose either one of the art objects (“What would you win in case you choose the

object?”). Participants were instructed to write down their answers to the lose/win question for each of the art objects and were then asked to indicate which art piece they had chosen. After that, current mood (“How do you feel right now?”) and focus-specific emotions were examined. To do so, participants completed a questionnaire similar to the one used by Higgins et al. (1997) that assesses the current intensity of six agitation-quiescence related items (agitated, on edge, uneasy, tense, calm, and relaxed) that are associated with a prevention focus and of six dejection-cheerfulness related items (disappointed, discouraged, low, sad, happy, and satisfied) that are associated with a promotion focus on a scale from 1 (*not at all*) to 7 (*very much*). In contrast to the previous study, these possible mediating variables were assessed directly after the manipulation. Then the dependent measure was examined by having participants indicate how much money they were willing to spend for each of the two art objects (“How much money would you spend for the art object?”). Afterwards, participants were asked to indicate the conventionality level for each of the two artworks (“In your opinion, does art object no. 1/no. 2 correspond to a conventional concept of art?”) on a scale from 1 (*not at all*) to 7 (*very much*). This measure was included to control for conventionality, because as detailed above, the difference in conventionality between the artworks was less pronounced than in Study 1. Finally, participants completed a questionnaire containing several control measures (mood, art interest, art knowledge, difficulty to decide between the two art objects, knowledge about the price of the art objects etc.).

Results

Price Estimates

The dependent measure was the price in Euros participants would pay for the chosen object. The data were analyzed using an ANOVA and are summarized in Table 2. In contrast to the previous study, we did not find a main effect for conventionality level of art ($F < 1$). Our hypothesis regarding an interaction was confirmed: participants with a prevention focus

indicated their willingness to spend more money for the chosen conventional object⁶ ($M = 63802$, $SD = 169318$) than participants with a promotion focus ($M = 12550$, $SD = 23859$), whereas for unconventional objects the reverse was true ($M_{\text{Prev}} = 6540$, $SD_{\text{Prev}} = 12366$; $M_{\text{Prom}} = 32136$, $SD_{\text{Prom}} = 130555$). However, this interaction was only marginally significant, $F(1,81) = 2.74$, $p < .10$. Because the prices varied enormously, we reanalyzed the data using standardized z-scores. Again, we found the same result pattern, however, this pattern did not reach a marginal significance any more ($F(1,82) = 2.63$, $p = .11$). Post hoc analysis revealed that the price prevention-oriented would spend for conventional artworks compared to promotion-oriented individuals differed on a marginal level, $F(1,81) = 2.40$, $p = .06$, whereas there was no significant difference for unconventional artworks ($F < 1$) (one-tailed). Additional post hoc tests demonstrated that people with a prevention focus would spend significantly more for conventional artworks, $F(1,81) = 3.07$, $p = .04$, whereas for people with a promotion focus no differences were found ($F < 1$) (one-tailed).

We calculated an additional ANOVA with the mean price for both artworks, the chosen and the non-chosen one, as the dependent variable. Results indicated a similar interaction pattern as when using the chosen one as the dependent variable, which, however, failed to reach marginal significance, $F(1,82) = 2.60$, $p = .11$.

Additional Measures

As detailed, we controlled for conventionality level. In line with the results of the pretest, the conventional artworks (*Water Music*: $M = 4.60$, $SD = 1.31$; *The Milkmaid*: $M = 5.33$, $SD = 1.00$) received significantly higher conventionality ratings than the unconventional artworks (*Orange and Yellow*: $M = 3.88$, $SD = 1.42$; *Kontra-Komposition V*: $M = 4.05$, $SD = 1.43$) (all $ps < .01$).

⁶ Fifty-eight participants chose the artwork that had received higher decorativeness ratings in the pretest, twenty-seven participants chose the other one. In the main analysis, we included the price for the chosen object.

Table 2

Mean Price in Euros as a Function of Art Type and Regulatory Focus (Study 2, N = 85)

Regulatory Focus	Art Type	
	Conventional Art	Unconventional Art
Prevention	63802 (169318)	6540 (12366)
Promotion	12550 (23859)	32136 (130555)

Note. Standard Deviations for the means are shown in parentheses.

Art Interest, Knowledge about the Art Objects, Mood, Focus-related Emotions

We calculated the means for art interest ($M = 3.24$, $SD = 1.41$), frequency of art exhibition visits in the past half year ($M = 1.23$, $SD = .82$), art knowledge ($M = 0.07$, $SD = 0.26$), and mood ($M = 4.83$, $SD = 1.12$). By performing a MANOVA we examined whether regulatory focus had an influence on one of the respective variables or focus-specific emotions. There was no significant influence of regulatory focus on art interest, knowledge about the art objects and mood (all F s < 1). No differences between prevention-oriented and promotion-oriented individuals revealed for the cheerfulness-dejection related emotions ($F < 1$), however, in line with the predictions from regulatory focus theory, there was a slight tendency by participants with a prevention focus to express more quiescence-agitation related emotions ($F = 2.72$, $p = .06$) (one-tailed). We conducted an ANCOVA with the measures of focus-specific emotions as covariates and our primary predicted effects remained marginally significant ($ps < .10$).

Discussion

Even though the effects of Study 2 are not strong, they are quite intriguing: regulatory focus does not only influence cognitive measures of attitudes towards conventional versus unconventional objects, but also attitudes measures capturing behavioral aspects, namely the amount of money one would be willing to spend for an artwork. It was demonstrated that

prevention-oriented individuals would spend more for conventional art than promotion-oriented individuals. For unconventional artworks, the reverse was true. In addition, it could be shown that a different focus manipulation (lose vs. win instructions) and a different design (between participants) can lead to a very similar result pattern as in the previous study. This supports the assumption that the effects are not limited to the maze-manipulation or a within participants design. It is important to note that in Study 2 we included a comprehensive measure for focus-specific emotions. Nevertheless, as in Study 1 the effects found were independent of a current affective state.

The weak effects might be due to methodological reasons. Contrary to the previous study we used a between design and a long delay period between manipulation and dependent measure. Moreover, our artworks differed only moderately in conventionality level. Varying conventionality between participants instead of varying it within participants (Study 1) might have increased ratings for the unconventional artworks. It seems likely that when unconventional artworks are presented separately, they are evaluated more positively than when they are presented together with conventional artworks (Rawlings, 2000). In this study, we included a twelve-item measure for focus-specific emotions. This long delay period might have weakened our focus manipulation. Furthermore, the unconventional exemplars, namely by Mark Rothko and Theo van Doesburg, were not as unconventional as the ones used in the previous studies (e.g., by Marcel Duchamp). This is due to the fact that the art objects were matched regarding their form of expression. In addition, the higher decorativeness levels of the unconventional artworks in the present study might have contributed to the moderate effects compared to the other studies. Finally, only two artworks were presented to each participant. Because it can be assumed that there are many variables besides regulatory focus influencing attitudes (e.g., personal taste) it is rather difficult to find the hypothesized pattern when only two art objects are presented.

Study 3

In the studies reported so far, similar result patterns emerged for cognitive (typicality) and behavioral (price estimate) measures of attitudes. The subsequent study aimed to test whether regulatory focus has an influence on affective attitude measures, namely on liking of artworks. Moreover, Study 3 aimed to replicate the results of Study 1 by assessing typicality estimates before assessing liking ratings. By doing so, Study 3 examined whether typicality mediated the influence of regulatory focus on liking ratings thereby testing the assumptions of the preference-for-prototypes model (Whitfield, 1983). By doing so, Study 3 was the first out of two studies that aimed to clarify the dynamics of these different attitude measures. In addition, Study 3 aimed to examine whether chronic regulatory focus has a similar impact on attitudes as situational focus.

In Study 1, the conventionality level of the artworks had been determined via a pretest. Because art objects differ with regard to many dimensions, one might speculate that another dimension (e.g., degree of decorativeness) might be responsible for the effect of regulatory focus on typicality estimates towards art. Consequently and as done in Study 2, in the present study conventionality was assessed within participants. Moreover, in Study 3 it was examined whether the results would remain the same even when the dependent measures, namely typicality and liking ratings of the most conventional and unconventional artworks, are based on the conventionality ratings assessed within participants.

In the present study we wanted to address another issue: in Study 1 dimensionality of the artworks was not balanced well. The majority of the conventional pieces was represented by two-dimensional artworks (i.e., paintings), whereas the majority of unconventional pieces was represented by three-dimensional artworks (i.e., sculptures). Thus, dimensionality was better balanced in the following studies.

Because mood is known to influence attitudes (e.g., Bless, Mackie, & Schwarz, 1992) and in particular categorization processes (for an overview see Isen, 2000), it was tested whether mood independently influences attitude judgments. Mood might influence attitudes in two different ways: positive mood might either lead to more positive judgments of *all* objects than negative mood (Leder et al., 2004) or, given that mood is also associated with different processing modes (Gasper & Clore, 2002; Schwarz & Clore, 1996), participants in a negative mood might evaluate conventional objects more favorably compared to participants in a positive mood whereas for unconventional objects the reverse might be true.

Method

Participants and Design

Thirty-four (16 male, 18 female) university students from the Bremen area majoring in disciplines other than psychology were recruited. The study had a 2 x 2 mixed factorial design with regulatory focus (prevention vs. promotion) as a between participants factor and art type (conventional vs. unconventional) as a within participants factor. A measure for chronic focus, namely the regulatory focus questionnaire (RFQ, Harlow et al., 1997), was included. The dependent variables were typicality as well as liking ratings for conventional versus unconventional artworks. To get an additional measure for participants' attitudes towards conventional versus unconventional artworks, participants were asked to indicate whether they preferred traditional or modern art. Finally, the conventionality level of each art object was assessed.

Stimulus Material

Because this study was conducted together with other studies using artworks as stimulus material, the present material, prints of twelve art objects (circa 9.55 x 7.62 cm), was slightly different from the material used in Study 1. More specifically, some of the artworks used in Study 1 were substituted by other artworks with similar conventionality levels. By doing so, we wanted to demonstrate that the effect of regulatory focus on the evaluation of art is

independent of the particular stimulus material used. As in Study 1 and 2, we ensured that all pair-wise comparisons between conventional and unconventional art objects differed on a significant level (all $ps < .001$; all $Fs > 36.00$). The conventional objects included *Water Music* ($M = 5.80$, $SD = 1.08$) by Antonio Canaletto (1754, National Gallery of Art, London), *Daphne and Apollo* ($M = 5.67$, $SD = 1.08$) by Gian Lorenzo Bernini (1622, Villa Borghese, Rome), and *Milkmaid* ($M = 5.61$, $SD = 1.17$) by Jan Vermeer (1658, Rijksmuseum, Amsterdam). The unconventional art objects were represented by *Untitled No. 7* ($M = 2.36$, $SD = 1.61$) by Agnes Martin (1997, Private Collection), *Fountain* ($M = 2.98$, $SD = 1.75$) by Marcel Duchamp (1917, Philadelphia Museum of Art, Philadelphia), and *Luncheon in Fur* ($M = 3.73$, $SD = 1.59$) by Meret Oppenheim (1936, Museum of Modern Art, New York). The remaining six objects were *The Pack* by Joseph Beuys (1969, Staatliche Museen, Kassel), *Nose* by Alberto Giacometti (1947, Guggenheim Museum, New York), *The Bull* by Pablo Picasso (1946, Norton Simon Museum, Pasadena), *Countryside* by Erich Heckel (1907, Private Collection), *La Valse* by Camille Claudel (1892, Musée Rodin, Paris), and *Portrait of a Woman* by Antonio Pollaiuolo (1470, Museo Poldi Pezzoli, Milan).

Procedure

Participants completed tasks unrelated to the present experiment for about 40 minutes before this study. To manipulate regulatory focus, participants first worked on the different types of mazes (prevention vs. promotion). Afterwards, participants were asked to participate in an unrelated task on categorizing artworks. They received a folder containing prints of twelve different artworks. Instead of varying the sequence of the artworks, the first art object to be presented, namely *The Bull* by Pablo Picasso (1945, Norton Simon Museum, Pasadena), had received conventionality ratings ($M = 4.67$, $SD = 1.55$) ranging in between those artworks with extremely high and low conventionality ratings, and could therefore serve as a standard or anchor. Participants had to rate the twelve artworks regarding their typicality for art (“How typical is this object for the category art?”) on a scale from 1 (*not typical at all*) to 7 (*very*

typical). Then they had to indicate for the same artworks how much they liked them (“How much does this object appeal to you?”) on a scale from 1 (*not at all*) to 7 (*very much*). Afterwards, participants had to specify the conventionality level for each of the artworks (“How much does this art object correspond to a conventional concept of art?”) on a scale from 1 (*not at all*) to 7 (*very much*). After having answered the question “What do you like more, traditional or modern art?” on a scale from 1 (*traditional*) to 7 (*modern*), participants completed a questionnaire containing several control measures as in Study 1 (art interest and art knowledge). Mood (“How do you feel right now?”) was assessed on a scale ranging from 1 (*not good at all*) to 7 (*very good*) three times in this study, after the focus priming, after the assessment of the typicality estimates, and finally after the questions with regard to conventionality level.

To test whether chronic regulatory focus had an influence on attitudes towards objects with different conventionality levels, we included the German version of a measure developed by Harlow et al. (1997; see also Higgins, Friedman, Harlow, Idson, Adyuk, & Taylor, 2001), the RFQ. The RFQ is an eleven-item paper and pencil questionnaire with two psychometrically distinct subscales assessing the individual’s subjective history of prevention or promotion success in goal attainment. Rationale behind this measure is that a subjective history of success in attaining prevention focus goals creates *prevention pride* whereas a subjective history of success in attaining promotion focus goals creates *promotion pride*. The prevention subscale contains items such as “How often did you obey rules and regulations that were established by your parents?” while the promotion subscale includes items such as “Do you often do well at different things that you try?”. Participants had to answer how often these events had happened in their life on a scale from 1 (*never*) to 5 (*very often*).

Results

Conventionality Ratings

We first compared the conventionality ratings of the pretest with the conventionality ratings of the present study. In the pretest, the artworks by Gian Lorenzo Bernini, Antonio Canaletto, and Jan Vermeer were rated as the three most conventional ones ($M_{\text{Con}} = 5.74$, $SD_{\text{Con}} = 1.01$). In the present study, the artworks by Gian Lorenzo Bernini, Antonio Canaletto, and Antonio Pollaiuolo received the highest conventionality ratings ($M_{\text{Con}} = 5.91$, $SD_{\text{Con}} = 1.12$). Results show that participants of the present study regarded *Portrait of a Woman* by Antonio Pollaiuolo ($M = 5.88$, $SD = 1.11$) as more conventional than *Milkmaid* by Jan Vermeer ($M = 5.61$, $SD = 1.17$), whereas for the participants of the pretest the reverse was true (*Portrait of a Woman*: $M = 5.54$, $SD = 1.34$; *Milkmaid*: $M = 5.61$, $SD = 1.17$). Nevertheless, the means in conventionality level between these artworks did not differ significantly ($t < 1$). Participants of the pretest ($M_{\text{Uncon}} = 3.02$, $SD_{\text{Uncon}} = .89$) and of the present study ($M_{\text{Uncon}} = 3.12$, $SD_{\text{Uncon}} = .90$) selected artworks by Agnes Martin, Marcel Duchamp, and Meret Oppenheim as the three most unconventional ones. In line with the data from the pretest, the object by Pablo Picasso was rated as the seventh conventional one ($M = 4.94$, $SD = 1.22$) out of twelve artworks, thereby supporting our decision to present this object as the first one.

To test our hypotheses, the average means of the typicality estimates for the three conventional artworks and for the three unconventional artworks were calculated based on the pretest and based on the data of the present study. The average means for liking ratings were calculated respectively. Because we had mean typicality and liking ratings based on both the pretest and the current study, we analyzed the data in four different ANOVAs for mixed designs (Tables 3 to 6).

Table 3

Mean Typicality Ratings as a Function of Art Type and Regulatory Focus (Study 3, N = 34)

Situational Regulatory Focus	Art Type	
	Conventional Art	Unconventional Art
Prevention	5.63 (1.10)	2.84 (1.19)
Promotion	5.40 (1.31)	4.14 (1.52)

Note. Standard Deviations for the means are shown in parentheses. The selection of conventional and unconventional artworks was based on data of the pretest.

Typicality Estimates and Liking Ratings based on Conventionality Ratings of the Pretest

We first analyzed the data based on the conventionality ratings of the pretest. Conventional art was rated as more typical ($M_{\text{Con}} = 5.51$, $SD_{\text{Con}} = 1.19$; $M_{\text{Uncon}} = 3.49$, $SD_{\text{Uncon}} = 1.50$) than unconventional art, $F(1,32) = 42.59$, $p < .001$. This main effect was qualified by a significant interaction (Table 3): when participants were in a prevention focus, conventional art was rated as more typical ($M = 5.63$, $SD = 1.09$) compared to when participants were in a promotion focus ($M = 5.40$, $SD = 1.31$). For unconventional art, the opposite pattern was found ($M_{\text{Prev}} = 2.84$, $SD_{\text{Prev}} = 1.19$; $M_{\text{Prom}} = 4.14$, $SD_{\text{Prom}} = 1.52$), $F(1,32) = 6.00$, $p = .02$. Post hoc tests showed that the difference failed to be significant for conventional art, $F < 1$, but was highly significant for unconventional art, $F(1,32) = 7.64$, $p < .01$ (one-tailed). Within-subject differences were significant for participants with a prevention focus, $F(1,32) = 40.27$, $p < .001$, as well as for participants with a promotion focus, $F(1,32) = 8.31$, $p < .01$ (one-tailed).

When using liking ratings instead of typicality estimates as the dependent measure, a significant main effect was revealed ($M_{\text{Con}} = 3.94$, $SD_{\text{Con}} = 1.36$; $M_{\text{Uncon}} = 2.97$, $SD_{\text{Uncon}} = 1.14$), $F(1,31) = 8.29$, $p < .01$. This main effect was qualified by a significant interaction,

Table 4

Mean Liking Ratings as a Function of Art Type and Regulatory Focus (Study 3, N = 33)

Situational Regulatory Focus	Art Type	
	Conventional Art	Unconventional Art
Prevention	4.38 (1.17)	2.60 (1.09)
Promotion	3.52 (1.42)	3.31 (1.11)

Note. Standard Deviations for the means are shown in parentheses. The selection of conventional and unconventional artworks was based on data of the pretest.

$F(1,31) = 5.08, p = .03$ (Table 4). Conventional art was liked more by participants in a prevention focus compared to participants in a promotion focus ($M_{\text{Prev}} = 4.38, SD_{\text{Prev}} = 1.18$; $M_{\text{Prom}} = 3.52, SD_{\text{Prom}} = 1.42$), whereas unconventional art was liked more by participants in a promotion focus compared to participants in a prevention focus ($M_{\text{Prev}} = 2.60, SD_{\text{Prev}} = 1.09$; $M_{\text{Prom}} = 3.31, SD_{\text{Prom}} = 1.11$). Post hoc tests revealed that average ratings between prevention and promotion focus differed significantly for conventional art, $F(1,31) = 3.43, p = .04$, as well as for unconventional art, $F(1,31) = 3.41, p = .04$ (one-tailed). Within-subject differences were significant for participants with a prevention focus, $F(1,31) = 12.78, p < .001$, but not for participants with a promotion focus ($F < 1$) (one-tailed).

Typicality Estimates and Liking Ratings based on Conventionality Ratings of the Current Study

Calculations using dependent variables based on the conventionality ratings of the present study reached very similar interaction patterns and significance levels as calculations using dependent variables based on conventionality ratings of the pretest. Again, conventional art was rated as more typical ($M_{\text{Con}} = 5.56, SD_{\text{Con}} = 1.17$; $M_{\text{Uncon}} = 3.49, SD_{\text{Uncon}} = 1.49$), $F(1,32) = 44.00, p < .001$. This main effect was qualified by a significant interaction: as shown in Figure 1 (see also Table 5), when participants were in a prevention focus,

Table 5

Mean Typicality Ratings as a Function of Art Type and Regulatory Focus (Study 3, N = 34)

Situational Regulatory Focus	Art Type	
	Conventional Art	Unconventional Art
Prevention	5.68 (.98)	2.84 (1.19)
Promotion	5.43 (1.36)	4.14 (1.52)

Note. Standard Deviations for the means are shown in parentheses. The selection of conventional and unconventional artworks was based on data from Study 3.

conventional art was rated as more typical ($M = 5.68$, $SD = .98$) compared to when participants were in a promotion focus ($M = 5.43$, $SD = 1.36$). For unconventional art, the opposite pattern was found: it was rated as more typical by participants in a promotion focus ($M = 4.14$, $SD = 1.52$) compared to participants in a prevention focus ($M = 2.84$, $SD = 1.19$), $F(1,32) = 6.17$, $p = .018$. Post hoc tests showed that the difference was not significant for conventional art, $F < 1$, but highly significant for unconventional art, $F(1,32) = 7.64$, $p < .01$ (one-tailed). Moreover, both participants with a prevention, $F(1,32) = 41.57$, $p < .001$, as well as those with a promotion focus, $F(1,32) = 8.61$, $p < .01$, rated conventional art as more typical (one-tailed).

As done in Study 1, we subtracted the mean typicality estimates for unconventional artworks from the mean typicality estimates for conventional objects to get a descriptive measure for similarity perception. In line with our calculations above, participants with a prevention focus ($M = 2.84$, $SD = 1.32$) differed notably from participants with a promotion focus ($M = 1.29$, $SD = 2.10$) with regard to the difference values of typicality ratings, $F(1,32) = 6.17$, $p = .02$.

Table 6

Mean Liking Ratings as a Function of Art Type and Regulatory Focus (Study 3, N = 33)

Situational Regulatory Focus	Art Type	
	Conventional Art	Unconventional Art
Prevention	4.58 (1.17)	2.60 (1.09)
Promotion	3.33 (1.48)	3.31 (1.11)

Note. Standard Deviations for the means are shown in parentheses. The selection of conventional and unconventional artworks was based on data from Study 3.

A result pattern similar as the one for typicality was yielded for liking ratings (Figure 1, Table 6): conventional art was more liked than unconventional art ($M_{\text{Con}} = 3.94$, $SD_{\text{Con}} = 1.47$; $M_{\text{Uncon}} = 2.97$, $SD_{\text{Uncon}} = 1.14$), $F(1,31) = 7.66$, $p < .01$. This main effect was qualified by a significant interaction, conventional art was liked more by participants in a prevention focus ($M = 4.58$, $SD = 1.17$) compared to participants in a promotion focus ($M = 3.33$, $SD = 1.49$). For unconventional art the reverse was true ($M_{\text{Prev}} = 2.60$, $SD_{\text{Prev}} = 1.09$; $M_{\text{Prom}} = 3.31$, $SD_{\text{Prom}} = 1.11$), $F(1,31) = 7.36$, $p < .01$. Post hoc tests examining differences between the cell means supplemented this ANOVA. Here, the differences in average ratings between participants with a prevention focus and participants with a promotion focus were highly significant for conventional art, $F(1,31) = 7.14$, $p < .01$, as well as for unconventional art, $F(1,31) = 3.41$, $p = .04$ (one-tailed). Within contrasts were significant for participants with a prevention focus, $F(1,31) = 14.57$, $p < .001$, but not for participants with a promotion focus ($F < 1$) (one-tailed).

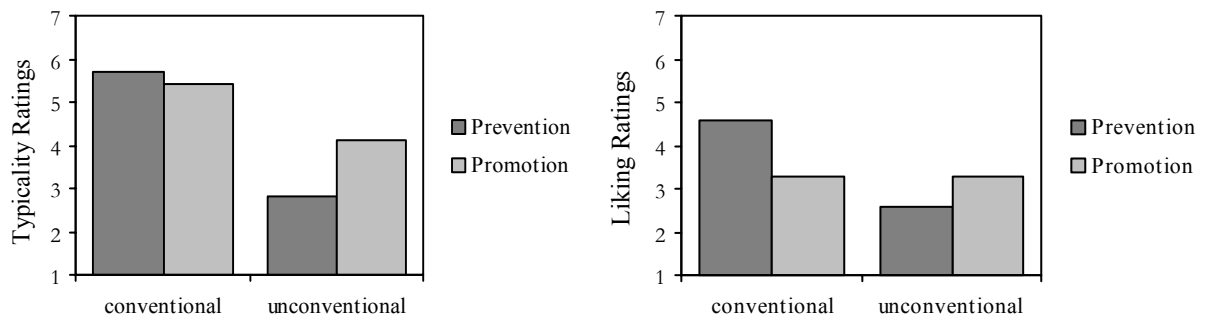


Figure 1. Mean Typicality and Liking Ratings as a Function of Art Type and Regulatory Focus (Study 3, $N = 34$).

Note. The selection of conventional and unconventional artworks was based on data from Study 3.

Additional Measures

Participants were asked “What do you like more, traditional or modern art?” on a scale ranging from 1 (*traditional*) to 7 (*modern*) to get an additional indicator for attitudes towards art. The mean for participants with a prevention focus was $M = 3.50$ ($SD = 1.46$) and thus in the middle of the scale, whereas the mean of participants with a promotion focus was $M = 4.41$ ($SD = 1.66$), and therefore rather towards the *modern* pole of the scale. An ANOVA revealed that this difference was significant, $F(1,31) = 2.79$, $p < .05$ (one-tailed). Given that traditional is associated with conventional and modern is associated with unconventional art, this implies that the differential attitudes by prevention-oriented versus promotion-oriented people towards artworks are not only reflected in their ratings of the respective artworks but also in a quite simple question capturing a rather general attitude.

In contrast to Study 1, participants in a prevention focus did not notably differ from participants in a promotion focus with regard to the object with the highest typicality estimates. Prevention-oriented individuals considered *Water Music* by Antonio Canaletto ($M_{\text{Con}} = 5.80$, $SD_{\text{Con}} = 1.08$) as the most typical one ($M_{\text{Typ}} = 6.06$, $SD_{\text{Typ}} = 1.20$) whereas promotion-oriented individuals considered *Daphne and Apollo* ($M_{\text{Con}} = 5.80$, $SD_{\text{Con}} = 1.10$) by Gian Lorenzo Bernini as the most typical one ($M_{\text{Typ}} = 6.00$, $SD_{\text{Typ}} = 1.08$). However,

typicality estimates for *Countryside* by Erich Heckel, an artwork that received conventionality ratings on a medium-high level in the pretest ($M_{\text{Con}} = 5.02$, $SD_{\text{Con}} = 1.44$), received almost as high typicality estimates from promotion-oriented individuals ($M_{\text{Typ}} = 5.94$, $SD_{\text{Typ}} = .83$) as *Daphne and Apollo* did ($M_{\text{Typ}} = 6.00$, $SD_{\text{Typ}} = 1.08$). *Water Music* and *Countryside* differ with regard to their conventionality level, $F(1,40) = 8.69$, $p < .01$.

Mediation Analysis

Another objective of the present study was to clarify the relationship between typicality and liking ratings⁷. Our theoretical framework predicts that typicality would mediate the relationship between regulatory focus and liking ratings. To test this, we coded prevention focus as -1 and promotion focus as 1 (Baron & Kenny, 1986; Kenny, Kashy, & Bolger, 1998). For the dependent measure, we calculated difference scores representing the mean of conventional art minus the mean of unconventional art, for the typicality as well as for the liking ratings. We first confirmed that focus was related to the mediator (i.e., typicality), $\beta = -.40$, $t(32) = -2.48$, $p = .02$, and to the dependent variable (i.e., liking), $\beta = -.44$, $t(31) = -2.72$, $p < .01$. We then tested whether our mediator (i.e., typicality) predicted the dependent variable (i.e., liking) which was also confirmed, $\beta = .83$, $t(31) = 8.30$, $p < .001$. When regressing liking of artworks on focus and on typicality in a simultaneous regression analysis, we found that typicality was a significant predictor for liking, $\beta = .78$, $t(30) = 7.18$, $p < .001$, but that the direct effect of focus on liking was rendered non-significant, $\beta = -.13$, $t(30) = -1.16$, $p = .25$, which strongly supports our hypothesis of typicality mediating the influence of regulatory focus on liking (Figure 2). This mediation was further confirmed by a significant Sobel test, $Z = 2.37$, $p = .02$ (Sobel, 1982; “Sobel Test”, 2005).

⁷ In the subsequent analyses, the dependent measures (typicality and liking ratings) will be all based on the conventionality ratings as assessed in the present study.

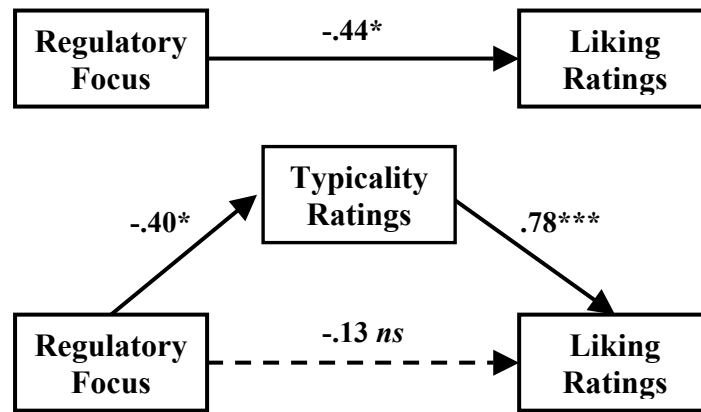


Figure 2. Mediation Analysis for Typicality mediating the Regulatory Focus Effect on Liking (Study 3, $N = 34$). $*p < .05$. $***p < .001$.

Note. The selection of conventional and unconventional artworks was based on data from Study 3.

Prevention and Promotion Pride

In order to test whether chronic regulatory focus influences attitudes in a similar vein as situational regulatory focus does, we administered the German version of the RFQ. The reliability for the scale measuring prevention pride was satisfying ($\alpha = .75$), whereas the reliability for promotion pride was critical ($\alpha = .57$; Tent & Stelzl, 1993). Despite this low reliability for the promotion pride scale, which was also revealed in other studies using the RFQ (Semin et al., 2005), we continued our analyses because this study served to gather preliminary evidence for a relationship between chronic focus and attitudes. In order to determine whether the participants had a predominant prevention versus promotion focus, we first calculated pride difference values by subtracting the value for promotion pride from the value for prevention pride. Thus, high values indicate a predominant prevention focus and low values indicate a predominant promotion focus. The participants were divided on the basis of a median split into a predominant prevention focus group and a predominant promotion focus group (for a similar procedure see Förster et al., 1998). After doing so, we

Table 7

Mean Typicality Ratings as a Function of Art Type and Regulatory Focus Pride (Study 3, $N = 30$)

Regulatory Focus Pride	Art Type	
	Conventional Art	Unconventional Art
Prevention Pride	5.79 (1.10)	2.82 (1.30)
Promotion Pride	5.31 (1.23)	4.06 (1.60)

Note. Standard Deviations for the means are shown in parentheses. The selection of conventional and unconventional artworks was based on data from Study 3.

calculated two ANOVAs for mixed designs with mean typicality or mean liking ratings as the dependent variables: for typicality estimates we found a significant main effect, with conventional art being rated more typical than unconventional art ($M_{\text{Con}} = 5.52$, $SD_{\text{Con}} = 1.18$; $M_{\text{Uncon}} = 3.52$, $SD_{\text{Uncon}} = 1.58$), $F(1,28) = 38.61$, $p < .001$. This main effect was qualified by a significant interaction, $F(1,28) = 6.38$, $p = .02$, which had a result pattern (Table 7) very similar to the one of situationally induced focus (conventional: $M_{\text{Prevpride}} = 5.79$, $SD_{\text{Prevpride}} = 1.10$; $M_{\text{Prompride}} = 5.31$, $SD_{\text{Prompride}} = 1.23$; unconventional: $M_{\text{Prevpride}} = 2.82$, $SD_{\text{Prevpride}} = 1.30$; $M_{\text{Prompride}} = 4.06$, $SD_{\text{Prompride}} = 1.60$). Post hoc tests showed that the difference between prevention-oriented individuals and promotion-oriented individuals failed to be marginally significant for conventional art, $F(1,28) = 1.22$, $p = .14$, but was significant for unconventional art, $F(1,28) = 5.16$, $p = .02$ (one-tailed). Tests examining within-subject differences were significant indicating that both participants high in prevention pride, $F(1,28) = 33.70$, $p < .001$, as well as participants high in promotion pride, $F(1,28) = 7.85$, $p < .01$, considered conventional art as more typical (one-tailed).

Table 8

Mean Liking Ratings as a Function of Art Type and Regulatory Focus Pride (Study 3, $N = 29$)

Regulatory Focus Pride	Art Type	
	Conventional Art	Unconventional Art
Prevention Pride	4.82 (1.00)	2.46 (1.03)
Promotion Pride	3.04 (1.33)	3.38 (1.20)

Note. Standard Deviations for the means are shown in parentheses. The selection of conventional and unconventional artworks was based on data from Study 3.

We did the same analyses for liking ratings. Again, conventional art was liked more than unconventional art ($M_{\text{Con}} = 3.84$, $SD_{\text{Con}} = 1.48$; $M_{\text{Uncon}} = 2.97$, $SD_{\text{Uncon}} = 1.20$), $F(1,27) = 7.34$, $p = .01$. The interaction was also significant and had a pattern (Table 8) similar to the one of situationally induced focus (conventional: $M_{\text{Prevpride}} = 4.82$, $SD_{\text{Prevpride}} = 1.00$; $M_{\text{Prompride}} = 3.04$, $SD_{\text{Prompride}} = 1.33$; unconventional: $M_{\text{Prevpride}} = 2.46$, $SD_{\text{Prevpride}} = 1.03$; $M_{\text{Prompride}} = 3.38$, $SD_{\text{Prompride}} = 1.20$), $F(1,27) = 12.96$, $p < .001$. Post hoc tests revealed that these differences were significant for both conventional, $F(1,27) = 15.89$, $p < .001$, and unconventional art, $F(1,27) = 4.71$, $p = .02$ (one-tailed). We found a significant difference between conventional and unconventional art for participants high in prevention pride, $F(1,27) = 18.01$, $p < .001$, but not for participants high in promotion pride ($F < 1$) (one-tailed).

Art Interest, Knowledge about the Art Objects, Mood

We first calculated the means for art interest ($M = 4.09$, $SD = 1.68$), art knowledge ($M = 0.33$, $SD = 0.81$), frequency of visiting art exhibitions in the past half year ($M = 1.06$, $SD = .90$), and mood for the first measuring time ($M = 5.15$, $SD = 1.25$). A MANOVA revealed that there was no influence of regulatory focus on art interest, knowledge about the art objects, and mood for two of the three measuring times ($F_s < 1.41$). However, regulatory focus influenced mood at the first measuring time, $F(1,31) = 3.74$, $p = .06$, with prevention-oriented

individuals indicating a slightly better current mood ($M_{\text{Prev}} = 5.60$, $SD_{\text{Prev}} = 1.18$) than promotion-oriented individuals ($M_{\text{Prom}} = 4.76$, $SD_{\text{Prom}} = 1.25$). Because this mood assessment was conducted before the measurement of the dependent variables, we conducted several regression analyses testing whether the influence of regulatory focus on attitudes was mediated by current mood (Kenny et al., 1998). The effect of regulatory focus on typicality estimates, $\beta = -.53$, $t(30) = -3.41$, $p < .01$, as well as on liking ratings $\beta = -.55$, $t(30) = -3.35$, $p < .01$, remained significant even when mood was controlled for, thereby supporting the assumption that mood did not mediate the effect of regulatory focus on attitudes.

In addition, because mood is known to influence attitudes in general (e.g., Bless et al., 1992), we included mood as an independent measure in several regression analyses. The results indicated that mood did not influence attitudes towards conventional versus unconventional objects as reflected by difference values of typicality estimates ($\beta = -.25$, $t(32) = -1.48$, $p = .15$) and liking ratings ($\beta = -.13$, $t(31) = -.76$, $p = .45$). Mood also did not influence overall typicality estimates ($\beta = -.02$, $t(32) = -.13$, $p = .89$) or liking ratings ($\beta = .07$, $t(31) = .41$, $p = .68$). We did these analyses in all subsequent studies. Because we did not find any support for an influence of mood on attitudes towards conventional versus unconventional objects or an allover score, these analyses will not be reported in detail for the following studies.

As stated, regulatory focus did not influence art interest or knowledge about art (all F s < 1). However, art interest had an impact similar to regulatory focus on the liking, $\beta = -.30$, $t(1,31) = -1.76$, $p = .09$, but not on typicality estimates, $\beta = -.21$, $t(1,31) = -1.19$, $p = .24$, of art: unconventional art was evaluated more favorably (liking ratings) by participants highly interested in art whereas conventional art was evaluated more favorably by participants not particularly interested in art. When calculating an ANCOVA with art interest as the covariate, the effect of focus on attitudes (typicality and liking ratings) remained significant (all p s $< .02$). Hence, art interest seems to have an independent effect on attitudes towards conventional versus unconventional art *beyond* regulatory focus.

Discussion

In the present study we were able not only to successfully replicate the findings of previous studies, but also to clarify the dynamics of attitudes. In particular, we found literally the same interaction pattern for typicality estimates as in Study 1. In addition, the present study shows that liking ratings capturing rather affective aspects of attitudes are also influenced by regulatory focus in a manner similar to typicality estimates. Prevention-oriented individuals tended to like conventional artworks more than promotion-oriented individuals, whereas unconventional artworks were liked more by promotion-oriented individuals than by prevention-oriented individuals. Consequently, we tested whether typicality mediated the influence of regulatory focus on liking and found strong evidence for this hypothesis. Hence, this result contributes to the ample evidence for the preference-for-prototypes model (Martindale et al., 1988; Whitfield, 1983) and clearly supports our assumption that one means by which regulatory focus influences aesthetic appreciation is categorical processing.

Our hypothesis that prevention-oriented individuals have a different prototype compared to promotion-oriented individuals, as reflected by the artwork with the highest typicality estimates, did not receive clear support in the present study but was not contradicted either. The need for further examination into this matter is clear.

The present study served to further support our assumption that the conventionality level of artworks is the critical dimension responsible for the effects found. Supporting this, the conventionality ratings from the pretest did not notably differ from the conventionality ratings assessed in the current study. In addition, we found literally the same result patterns when using artworks based on conventionality ratings assessed within participants as opposed to using artworks based on conventionality ratings of the pretest.

Moreover, the present study provides initial support for the assumption that the effect is not limited to situational regulatory focus but also applies to chronic regulatory focus. This is

particularly important because it indicates that stable motivational dispositions also have an impact on attitudes towards objects of different conventionality levels (Rawlings, 2000).

In this study we found an influence of regulatory focus on current mood. However, the results of a mediation analysis clearly exclude that the effects of regulatory focus on attitudes were mediated by current affective state. Furthermore, mood does not seem to have an independent influence on attitudes as suggested by several findings and models (e.g., Bless et al, 1992). Art interest, on the other hand, seems to influence attitudes towards conventional versus unconventional artworks somewhat like regulatory focus does, as suggested by the results of the current study. It is important to note that these effects did not seem to affect the influence of regulatory focus on attitudes.

Study 4

In Study 4 we wanted to examine whether the effects found so far are specific for the domain of art or if they are of a general nature. In particular, we were interested in whether our results could be extended to other, non-perceptual domains. To do so, we tested whether regulatory focus influences attitudes towards conventional versus unconventional dishes. Specifically, we investigated whether our results regarding typicality estimates could be conceptually replicated for dishes. This study aimed at gathering further support for our hypothesis that focus also influences attitudes by measuring behavioral aspects. Furthermore, Study 4 is the second study out of two exploring the dynamics of attitudes by examining whether typicality estimates also mediate the influence of regulatory focus on behavioral ratings.

Method

Participants and Design

Forty-four (19 male, 25 female) university students from the Bremen area majoring in disciplines other than psychology were recruited. The study had a 2 x 2 mixed factorial design with regulatory focus (prevention vs. promotion) as a between participants factor and

food type (conventional vs. unconventional) as a within participants factor. In addition the sequence of the dishes was varied (material factor). Typicality as well as behavioral ratings for conventional versus unconventional dishes served as dependent variables. Moreover, we included a measure capturing to what extent the dishes were perceived as disgusting.

Pretest and Stimulus Material

A pretest with 20 (9 male, 11 female) students from the Bremen area was conducted in order to select conventional versus unconventional dishes. Participants received a chocolate bar as compensation. The sample of the pretest was representative with respect to the sample used in the main study. Participants had to rate written descriptions of 16 dishes (including starters, main dishes, and desserts; vegetarian and non-vegetarian food) with respect to their conventionality level ("How conventional are the following dishes for you?") from 1 (*not conventional at all*) to 7 (*very conventional*). Afterwards, the three most conventional dishes, namely *Spaghetti Bolognese with fresh Parmesan* ($M = 6.70$, $SD = .57$), *Tomato-Mozzarella Salad with Balsamico Dressing and Garlic Bread* ($M = 5.85$, $SD = 1.27$), and *Coupe Denmark – Creamy Vanilla Ice-Cream with Hot Chocolate Sauce* ($M = 5.80$, $SD = 1.61$), and the most unconventional dishes, namely *Fried Lobster with Vanilla, black Salsify, and Pepper Basil* ($M = 1.60$, $SD = .88$), *Buttermilk Aloe Vera Ice-Cream on young Chicory and Rocket* ($M = 1.70$, $SD = .66$) and *Hot Chocolate with Octopus Leg* ($M = 1.80$, $SD = 1.15$), were selected for the main study. An ANOVA for mixed designs revealed that all pair-wise comparisons between conventional and unconventional dishes differed on a significant level (all $ps < .001$). The mean conventionality levels of all dishes are presented in the Appendix.

Procedure

Participants completed tasks unrelated to the present experiment for about 60 minutes. Regulatory focus was again manipulated with the different types of mazes (prevention vs. promotion). Participants were then asked to participate in a study about categorizing dishes. As in most of the previous studies, they were led to believe that the maze task was unrelated

to the task examining dishes. After the assessment of the current mood (“How do you feel right now?”) participants received a list with 16 different dishes and were asked to indicate how typical each dish was for the category food (“How typical is this dish for the category food?”) on a scale from 1 (*not typical at all*) to 7 (*very typical*). To get a behavioral indicator for attitudes, participants were then asked to indicate if they would actually order these dishes in a restaurant (“Would you actually order these dishes?”) on a scale from 1 (*not likely at all*) to 7 (*very likely*). Afterwards, they had to indicate for each dish how disgusting it seemed to them on a scale from 1 (*not disgusting at all*) to 7 (*very disgusting*). Finally, they were asked to complete a questionnaire containing additional control measures (mood, frequency of restaurant visits in the last six months, food preferences and aversions, purpose of the study).

Results

Typicality and Behavioral Estimates

One participant was excluded from the analyses because he indicated going to the restaurant 50 times in the last six months and was thus seen as not trustworthy in his answers. For each participant, the average typicality mean of the three ratings for the conventional dishes and the three ratings for unconventional dishes were computed respectively. Accordingly, the behavioral- and disgust-measures were calculated. Several ANOVAs for mixed designs were computed (Tables 9 and 10).

Concerning the typicality estimates, we found a significant main effect with conventional dishes being rated more typical than unconventional dishes ($M_{\text{Con}} = 5.78$, $SD_{\text{Con}} = 1.04$; $M_{\text{Uncon}} = 1.98$, $SD_{\text{Uncon}} = 1.19$), $F(1,41) = 267.13$, $p < .001$. In line with our predictions we found the same interaction pattern, $F(1,41) = 5.02$, $p = .031$, for dishes as for art (Table 9).

Table 9

Mean Typicality Ratings as a Function of Dish Type and Regulatory Focus (Study 4, N = 43)

Regulatory Focus	Dish Type	
	Conventional Dishes	Unconventional Dishes
Prevention	6.07 (1.02)	1.79 (1.19)
Promotion	5.45 (.98)	2.20 (1.18)

Note. Standard Deviations for the means are shown in parentheses.

Participants with a prevention focus rated conventional dishes as more typical ($M = 6.07$, $SD = 1.02$) compared to participants with promotion focus ($M = 5.45$, $SD = .98$). For unconventional dishes we found the reverse pattern. Participants with a promotion focus ($M = 2.20$, $SD = 1.18$) considered these dishes as more typical than participants with a prevention focus ($M = 1.79$, $SD = 1.19$). Post hoc tests revealed that this effect was significant for conventional food, $F(1,41) = 4.11$, $p = .02$, but failed to be significant for unconventional food, $F(1,41) = 1.28$, $p = .13$ (one-tailed). Further post hoc tests showed that participants with a prevention focus, $F(1,41) = 185.65$, $p < .001$, as well as participants with a promotion focus, $F(1,41) = 92.67$, $p < .001$, considered conventional dishes as more typical than unconventional dishes (one-tailed).

We subtracted the mean typicality estimates for unconventional dishes from the mean typicality estimate for conventional dishes. In line with our calculations above, participants with a prevention focus ($M = 4.28$, $SD = 1.45$) differed notably from participants with a promotion focus ($M = 3.25$, $SD = 1.57$) with regard to the difference values of typicality ratings, $F(1,41) = 5.02$, $p = .03$.

Participants with a prevention focus did not differ from participants with a promotion focus with regard to the conventionality level of the dish with the highest typicality estimates.

Table 10

Mean Behavioral Ratings as a Function of Dish Type and Regulatory Focus (Study 4, $N = 43$)

Regulatory Focus	Dish Type	
	Conventional Dishes	Unconventional Dishes
Prevention	5.91 (1.09)	1.99 (.95)
Promotion	5.67 (1.17)	2.42 (1.46)

Note. Standard Deviations for the means are shown in parentheses.

Prevention-oriented individuals considered *Tomato-Mozzarella Salad with Balsamico Dressing and Garlic Bread* (conventionality level: $M = 5.85$, $SD = 1.27$) as the most typical dish ($M_{Typ} = 6.65$, $SD_{Typ} = .72$) while promotion-oriented individuals considered *Spaghetti Bolognese with fresh Parmesan* (conventionality level: $M = 6.70$, $SD = .57$) as the most typical one ($M_{Typ} = 5.95$, $SD_{Typ} = 1.96$). Hence, both participants with a prevention focus as well as participants with a promotion focus considered dishes that had received very high conventionality ratings in the pretest as the most typical dish.

For the behavioral indicator (“Would you actually order these dishes?”) resulted a very similar pattern as for typicality estimates (Table 10): Generally, participants would rather order conventional food than unconventional food ($M_{Con} = 5.80$, $SD_{Con} = 1.23$; $M_{Uncon} = 2.18$, $SD_{Uncon} = 1.22$), $F(1,41) = 299.21$, $p < .001$. However, participants with a prevention focus ($M = 5.91$, $SD = 1.09$) were more willing to order conventional dishes compared to participants with a promotion focus ($M = 5.67$, $SD = 1.17$). Participants with a promotion focus ($M = 2.42$, $SD = 1.46$) were more willing to order unconventional dishes compared to participants with a prevention focus ($M = 1.99$, $SD = .95$). However, this interaction failed to be significant, $F(1,41) = 2.66$, $p = .11$. Post hoc tests showed that these differences were neither significant for conventional, $F(1,41) = 0.51$, $p = .24$, nor for unconventional foods, $F(1,41) = 1.36$, $p = .13$ (one-tailed). Both within-subject comparisons became highly

significant demonstrating that participants with a prevention focus, $F(1,41) = 192.62$, $p < .001$, as well as participants with a promotion focus, $F(1,41) = 114.69$, $p < .001$, stated that they would rather order conventional foods (one-tailed).

In a third step we asked participants how disgusting the different dishes were. A significant main effect also resulted from this measure, indicating that conventional foods were considered less disgusting than unconventional foods, $F(1,41) = 190.35$, $p < .001$. Again, we found the same interaction pattern for disgust; however, this interaction was not significant ($F(1,41) = 1.92$, $p = .17$).

Mediation Analysis

To clarify the dynamics between these variables we did several regression analyses testing for mediation of the typicality estimates on behavioral ratings. We coded prevention focus as -1 and promotion focus as 1 and calculated difference scores, reflected by the mean of conventional dishes minus the mean of unconventional dishes, for the typicality as well as for the behavioral ratings. We first confirmed that the independent variable (i.e., regulatory focus) was related to the mediator (i.e., typicality estimates), $\beta = -.33$, $t(41) = -2.24$, $p = .03$. We then tested whether regulatory focus predicted the dependent variable (i.e., willingness to order), $\beta = -.25$, $t(41) = -1.63$, $p = .11$. In line with the results above, the regression coefficient was not statistically significant. Even though this did not meet the conventional significance level (Kenny et al., 1998), we continued our calculations in order to gather preliminary evidence for our mediation hypothesis. We then tested further whether the potential mediator (i.e., typicality) also predicted willingness to order, which was strongly supported, $\beta = .67$, $t(41) = 5.82$, $p < .001$. The relationship between focus and willingness to order was completely eliminated, $\beta = -.03$, $t(42) = -.23$, $p = .82$, when controlling for typicality estimates indicating that the latter strongly mediates the relationship between focus and willingness to order, $\beta = .66$, $t(41) = 5.36$, $p < .001$ (Kenny et al., 1998). This mediation analysis was further confirmed by a significant Sobel test, $Z = 2.09$, $p = .04$ (Sobel, 1982).

Frequency to Go to the Restaurant, Mood, Order

We first calculated the means for frequency of eating in a restaurant ($M = 3.60$, $SD = .66$), and mood ($M = 5.28$, $SD = 1.00$). A MANOVA revealed that there was no influence of regulatory focus on frequency of eating in a restaurant or on mood ($F_s < 1$).

We entered mood, frequency to go to the restaurant, or order of the dishes separately into several ANCOVAs, and found that the effect of regulatory focus on typicality estimates still remained statistically highly significant, meaning that the effects were independent of mood or order (all $p_s < .05$). Also, the effect of regulatory focus on willingness to order remained roughly at the same significance level when entering these variables as covariates in the analyses (all $p_s < .12$).

Discussion

The present study supports the assumption that the effects found so far are not specific to the domain of arts, but instead seem to represent general effects of regulatory focus on attitudes. Notably, we replicated the effect of regulatory focus on typicality estimates for the third time by using different stimulus material: conventional dishes were regarded as more typical by participants with a prevention focus than by participants with a promotion focus, whereas unconventional dishes were regarded as more typical by participants with a promotion focus than by participants with a prevention focus. However, the results did not support the notion that prevention-oriented individuals differ from promotion-oriented individuals with regard to the conventionality level of their prototype. A similar interaction pattern to the one for typicality ratings resulted for behavioral ratings, which failed to be significant. One possible explanation for this weak effect might be that food preferences and aversions are naturally very pronounced, more than attitudes towards art. We cannot consider our participants as naïve with regard to food and so personal taste might have been an important determinant of whether participants indicated that they would order a specific dish or not. For example, if someone does not like lobster, it is very improbable that this person would order *Fried*

Lobster with Vanilla, black Salsify, and Pepper Basil even though such an unconventional dish generally fits his regulatory focus (i.e., a promotion focus). We asked participants for their food preferences and aversions in order to control for them. Putting these control measures in our analysis, however, became a rather difficult venture, so we decided not to do so. Hence, our analyses represent a conservative test of our assumptions, which supports even more our hypothesis that regulatory focus has a differential influence on food preferences.

In Study 4, it was demonstrated that typicality estimates mediated the influence of regulatory focus on behavioral ratings. To the best of our knowledge, it was shown for the first time that typicality influences attitude measures displaying behavioral rather than affective aspects.

The pretest revealed that unconventional dishes usually consisted of ingredients (e.g., lobster, octopus, rocket) that can be described as more exclusive than the ingredients that constituted conventional dishes (e.g., spaghetti, tomatoes, vanilla ice cream). For example, *Fried Lobster with Vanilla, black Salsify, and Pepper Basil* is likely to be conceived as more exclusive than *Spaghetti Bolognese with fresh Parmesan*. Because it has been shown that a promotion focus is associated with luxury (Zhu & Meyers-Levy, 2003), it is quite likely that exclusiveness of ingredients has contributed to the results besides conventionality level. Future studies should therefore include pretests clarifying the concept of conventionality for dishes more thoroughly.

Study 5

The previous studies have shown convincingly that regulatory focus has an influence on the evaluation of conventional versus unconventional objects. But what are the mechanisms underlying these effects? In the theoretical part, we presented a variety of variables that seem to influence attitudes towards objects differing in conventionality level, all related to strategic inclinations (e.g., Rawlings, 2000) or processing modes (Arnheim, 1969). As detailed, we assume that cognitive processes play a particularly important role for the judgment of art. To

test this assumption, in the subsequent study we examined whether psychological distance, manipulated by temporal perspective (Liberman & Trope, 1998), has a similar impact on attitudes towards art as regulatory focus does. We assume that manipulating regulatory focus is only one way to activate processing modes, but also variations in psychological distance should lead to variations in processing modes as detailed in construal level theory (Liberman & Trope, 1998). In particular, we were interested in the effect of temporal perspective on attitudes. Whereas a proximal time perspective should bolster a concrete processing mode, a distal time perspective should elicit an abstract processing mode (Liberman et al., 2002). Hence, we expected that participants in the proximal future condition should evaluate conventional art more favorably than participants in the distal future condition. For unconventional art, the reverse pattern was expected.

Method

Participants and Design

Twenty-eight (15 male, 13 female) university students from the Bremen area majoring in disciplines other than psychology were recruited. The study had a 2 x 2 mixed factorial design with psychological distance (proximal vs. distal) as a between participants factor and art type (conventional vs. unconventional) as a within participants factor. Typicality estimates for conventional versus unconventional artworks served as the dependent variables.

Stimulus Material

For the same reasons as described in Study 3, slightly different stimulus material was used in the present study than in Studies 1 and 3. It consisted of prints of twelve art objects (circa 9.55 x 7.62 cm) that were all pre-tested with regard to their conventionality level. The three conventional objects were represented by *Daphne and Apollo* ($M = 5.80$, $SD = 1.08$) by Gian Lorenzo Bernini (1622, Villa Borghese, Rome), by *Lady with Flowers*⁸ ($M = 5.58$, $SD = 1.18$) by Andrea del Verrocchio (1480, Bargello Museo, Florence), and by *Portrait of a Woman*

($M = 5.54$, $SD = 1.34$) by Antonio Pollaiuolo (1470, Museo Poldi Pezzoli, Milan). Unconventional artworks included *Untitled No. 7* ($M = 2.36$, $SD = 1.61$) by Agnes Martin (1997, Private Collection), *Brillo Boxes* ($M = 3.36$, $SD = 1.78$) by Andy Warhol (1969, Norton Simon Museum, Pasadena), and *The Pack* ($M = 3.80$, $SD = 1.42$) by Joseph Beuys (1964, Staatliche Museen, Kassel). Objects with conventionality levels in between were *Countryside* by Erich Heckel (1907, Private Collection), *Young Girl with Dog* by Antoine Coypel (1710, Musée National du Louvre, Paris), *South Bank Cycle* by Richard Long (1991, Tate Gallery, London), *Reflection of the Big Dipper* by Jackson Pollock (1947, Stedelijk Museum, Amsterdam), *Torso Garbe* by Hans Arp (1958, Kunstsammlung Landesbank Rheinland Pfalz, Mainz), and *The Bull* by Pablo Picasso (1946, Norton Simon Museum, Pasadena).

Procedure

Participants completed tasks unrelated to the present experiment for about 50 minutes. The manipulation of temporal perspective was similar to the one used by Förster et al. (2004; see also Liberman & Trope, 1998). Participants in the proximal condition were asked to imagine their life tomorrow (near future perspective), whereas participants in the distal condition were asked to imagine their life one year from now (distant future perspective). Participants had approximately four minutes to write down their thoughts and were interrupted after this time. As in the studies using the maze paradigm (Studies 1, 3, and 4), participants were led to believe that this task was unrelated to the dependent measures that followed. After a mood assessment (“How do you feel right now?”) on a scale from 1 (*not good at all*) to 7 (*very good*), participants were invited to participate in a study on categorizing artworks. They received a folder containing twelve different art objects and were asked to rate these art objects regarding their typicality for art (“How typical is this object for the category art?”) on a scale from 1 (*not typical at all*) to 7 (*very typical*). For the same reasons as in Study 3, *The Bull* by Pablo Picasso ($M = 4.67$, $SD = 1.55$) was presented as the first artwork. After having

⁸ Note that the conventionality level of this artwork was examined in another pretest not reported here.

rated the typicality of each artwork, participants were asked to complete a questionnaire containing several control measures (mood, art interest, and art knowledge). Four additional questions with scales ranging from 1 (*not at all*) to 7 (*very much*) aimed to control for the distance manipulation (“How much did you like this task?”; “How difficult was this task for you?”; “How precise was your imagination?”; and “How positive was your imagination?”).

Results

Typicality Estimates

Three participants were excluded from the analysis because they either did not do the imagination task at all or their evaluation of the task was very negative (2 *SD* below mean). We assumed that evaluating a task as extremely aversive, in the sense of wanting to avoid it, can induce a prevention focus and that this, in turn, might interfere with our construal manipulation. For each participant, the average mean of the three typicality estimates for the conventional art and the three typicality estimates for unconventional art were computed respectively and used as dependent variables in an ANOVA for mixed designs. As in the previous studies, there was a significant main effect ($M_{\text{Con}} = 5.50$, $SD_{\text{Con}} = 1.31$; $M_{\text{Uncon}} = 3.25$, $SD_{\text{Uncon}} = 1.34$), $F(1,23) = 40.00$, $p < .001$. Confirming our predictions, this main effect was qualified by a significant interaction (Figure 3 and Table 11), $F(1,23) = 5.25$, $p = .03$. Participants in the proximal condition rated conventional art as more typical ($M = 5.76$, $SD = 1.07$) than did participants in the distal condition ($M = 5.22$, $SD = 1.53$); participants in the distal condition rated unconventional art as more typical ($M = 3.81$, $SD = 1.63$) than did participants in the proximal condition ($M = 2.74$, $SD = .76$). Post hoc tests showed that the conditions did not differ in their evaluation of conventional art, $F(1,23) = 1.08$, $p = .15$, but that they differed significantly in their evaluation of unconventional art, $F(1,23) = 4.45$, $p = .02$ (one-tailed). Participants of both the proximal, $F(1,23) = 38.66$, $p < .001$, and the distal condition, $F(1,23) = 7.82$, $p = .01$, rated conventional art as more typical than unconventional art.

Table 11

Mean Typicality Ratings as a Function of Art Type and Temporal Perspective (Study 5, $N = 25$)

Temporal Perspective	Art Type	
	Conventional Art	Unconventional Art
Proximal	5.77 (1.06)	2.74 (.76)
Distal	5.22 (1.53)	3.81 (1.64)

Note. Standard Deviations for the means are shown in parentheses.

In line with our analyses above, participants in the proximal condition ($M = 3.02$, $SD = 1.20$) differed also notably from participants in the distal condition ($M = 1.42$, $SD = 2.21$) with regard to the difference values of typicality ratings, $F(1,23) = 5.25$, $p = .03$.

Additionally, participants in the proximal condition differed from participants in the distal condition with regard to the most typical artwork. Participants with a proximal temporal perspective estimated *Daphne and Apollo* by Gian Lorenzo Bernini, an artwork that received very high conventionality ratings in the pretest ($M = 5.67$, $SD = 1.08$), as the most typical one ($M_{Typ} = 6.23$, $SD_{Typ} = 1.01$); participants with a distal temporal perspective considered *Torso Garbe* by Hans Arp, an artwork that also received high conventionality ratings in the pretest ($M = 5.53$, $SD = .89$), as the best representative for the category art ($M_{Typ} = 6.08$, $SD_{Typ} = 1.51$). Thus, even though participants in the proximal condition differed from participants in the distal condition with regard to the most typical artwork (*Daphne and Apollo* vs. *Torso Garbe*), these artworks did not differ in conventionality level as examined in the pretest ($F < 1$).

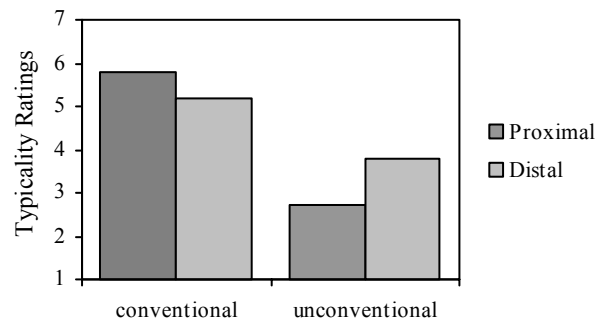


Figure 3. Mean Typicality Ratings as a Function of Art Type and Temporal Perspective (Study 5, $N = 25$).

Art Interest, Knowledge about the Art Objects, Mood

We first calculated the means for art interest ($M = 3.13$, $SD = 1.60$), art knowledge ($M = .42$, $SD = .09$), frequency of art exhibition visits in the past half year ($M = .70$, $SD = .82$), and mood ($M = 5.52$, $SD = .82$). A MANOVA revealed that there was no influence of temporal perspective on interest in art, knowledge about art, or mood ($F_s < 1.82$). When calculating several ANCOVAs by putting mood, art interest, and knowledge of the artworks separately as covariates into the analyses, we found the primary effect of temporal perspective on typicality estimates still significant ($ps < .05$).

Discussion

Our hypothesis, namely that participants with a proximal time perspective regard conventional art as more typical than participants with a distal time perspective, while participants with a distal time perspective consider unconventional art as more typical than participants with a proximal time perspective, was supported by the present results. Notably, literally the same result pattern emerged when varying psychological distance instead of regulatory focus (Figures 1 and 3), which supports the assumption that processing modes mediate the effects of both regulatory focus and psychological distance on attitudes. Regulatory focus is a motivational variable that influences an array of variables, among these also cognitive processes. Moreover, regulatory focus is not content-free, because a prevention

focus is associated with safety matters and a promotion focus is associated with accomplishment matters (Higgins, 1998). This implies that the effect of regulatory focus on attitudes could have been mediated by a motivational mechanism or by content related variables. However, the present study further supports our hypothesis that cognitive variables play an important role in the differential attitudes towards artworks between prevention-oriented and promotion-oriented individuals, because in the respective literature psychological distance has been conceived as a cognitive variable that is free of content (Liberman & Trope, 1998).

In addition, the study aimed to test whether mental distance in particular leads to more favorable attitudes towards unconventional art: this notion received strong support. Participants in the distal condition estimated unconventional art as more typical than participants in the proximal condition, as reflected by the result of the post hoc test.

DISCUSSION

The present project shows convergent evidence that self-regulatory mechanisms, namely regulatory foci, have an influence on attitudes. Studies 1, 2, and 3 demonstrate that participants with a prevention focus evaluated conventional artworks more favorably than participants with a promotion focus. Participants with a promotion focus, on the other hand, evaluated unconventional artworks more favorably than participants with a prevention focus. This applies to cognitive (“How typical is this object for the category art?”), behavioral (“How much money would you spend for this object?”) and affective ratings (“How much does this object appeal to you?”). Studies 3 and 4 clarify the dynamics of the different attitude measures. It was shown that typicality estimates mediate the influence of regulatory focus on affective (Study 3) as well as on behavioral measures (Study 4). In addition, Study 3 provides first evidence that chronic focus has a similar impact on attitudes as situational focus. Study 4 demonstrates that the predicted interaction pattern could be replicated for objects other than art, namely for food dishes. Finally, Study 5 supports our hypothesis that the difference in processing mode between prevention-oriented and promotion-oriented individuals is responsible for differential attitudes towards artworks. All effects were independent of self-reports on mood, art interest, or sequence of the objects. Moreover, the effects did not depend on the specific stimulus material because we used different artworks across studies and conducted an additional experiment using objects other than art.

Conventionality as a Distinctive Characteristic of Artworks?

As detailed in the theoretical part, one of our independent variables was the conventionality level of the stimuli. To the best of our knowledge, no one has used conventionality level as a critical dimension in aesthetic research before. Hence, in the subsequent section we will discuss the decision to vary conventionality level by contrasting it with other self-evident dimensions and by examining our pretest results.

Previous studies on aesthetic judgment with a similar research question as in the present project varied dimensions such as *degree of realism* (e.g., Kettlewell, Limpscomb, Evans, & Rosston, 1990), *artistic epochs* (e.g., Cupchik & Gebotys, 1990) or *degree of abstraction* (e.g., Rawlings, 2000). By varying *degree of realism*, only a relatively confined spectrum of artworks could have been covered, because degree of realism is not applicable to contemporary art. By introducing the notion of conventionality, we were able to use a variety of artworks ranging from early Renaissance art (e.g., by Antonio Pollaiuolo) to contemporary art (e.g., by Robert Gober). Hence, dimensions related to date of origin of an artwork, such as *artistic epochs*, might have been an alternative. However, this would have fallen short of examining the present question, especially because certain artists do not represent their epochs well (e.g., Hieronymus Bosch or David Hockney), as detailed in the theoretical part. Another alternative would have been the dimension *degree of abstraction*, because it was hypothesized that our results for artworks are in part mediated by concrete versus abstract processing. As described in the empirical part, *degree of abstraction* has different meanings that need to be disentangled in order to yield a high reliability of the scale. In the present project it would have been interesting to examine the aspect *degree to which object transmits abstract concepts*, because we ascribe processing modes an important role. However, this dimension seems to include only a limited range of artworks and does not seem to capture all aspects presented in our theoretical framework.

Another advantage of using conventionality level as an independent variable was that it allowed us to test our assumptions with stimulus material other than art, namely with food dishes. In contrast to artworks, we did not relate conventionality level to other dimensions of dishes: this should be done in the future because it is likely that conventionality for food might comprise slightly different characteristics than conventionality for artworks as was specified in the discussion part of Study 4.

Obviously, the stimuli used differed in more dimensions than conventionality level. This accounts for dishes as well as for artworks. Berlyne (1974, p. 181), one of the most influential researchers in empirical aesthetics, stated that “any two paintings [...] must differ in at least a thousand respects. If we find a reliable difference between [...] two paintings, any one of these factors, or any combination of them, could be responsible for the difference”. For artworks, these factors may include form of artistic expression, genre, and perceptual variables such as complexity (Frith & Nias, 1974), figure-ground contrast (Leder, 2002), symmetry (Locher & Nodine, 1987), and color (Martindale & Moore, 1988; for a review see Leder et al., 2004). In addition, personal taste plays a crucial role in aesthetic judgments (O’Hare, 1976). Because of this *multileveledness of artworks*, a lot of studies examining aesthetic appreciation used simple stimuli (e.g., polygons), thereby dealing with rather “mild” aesthetic experiences (e.g., Reber, Winkielman, & Schwarz, 1998). It is thus quite noteworthy that we yielded the predicted results by using prints of real artworks that apparently differed in many more respects than conventionality level.

The notion of conventionality did not only allow us to examine a wide range of artworks including contemporary art and apply our theoretical framework to objects other than art, but it also proved to be a dimension capable of distinguishing well between those types of artworks that seem to be differentially evaluated by participants differing in regulatory focus (Studies 1 to 4) or temporal perspective (Study 5).

Regulatory Focus as a Distinctive Variable influencing Aesthetic Judgment?

In the following section we will have a closer look at the results and interpret them in the context of aesthetic and focus research. Following the logic from the methods part, we will first interpret the results of the different attitude measures (cognitive, behavioral, affective) and then relate them to each other.

Let us first consider those studies capturing *cognitive* measures of attitudes, namely typicality estimates. To the best of our knowledge, it is the first time that typicality was assessed for the general category art and not for objects other than art (e.g., Martindale & Moore, 1988) or for artistic subcategories like cubist (Hekkert & van Wieringen, 1990) or surrealist paintings (Farkas, 2002). This seems to be particularly relevant because it can be assumed that a naïve audience does not look at artworks in terms of artistic epochs or art styles (Leder et al., 2004). For example, a naïve beholder of a surrealist painting probably does not judge it according to its typicality for the category of surrealist paintings, but rather according to its typicality for the category of art in general.

In all studies using typicality estimates as the dependent measure, a significant main effect was revealed for conventionality level with conventional objects being rated as more typical than unconventional objects. This result not only makes sense intuitively - because of the link between conventionality and typicality - it also conceptually replicates the results by Friedman and Förster (2000). This main effect was consistently qualified by an interaction, demonstrating that prevention-oriented individuals considered conventional objects as more typical than promotion-oriented individuals. The reverse was true for unconventional objects. This seems to be a stable pattern because it emerged in all three studies assessing typicality after a situational focus manipulation (Studies 1, 3, and 4). Moreover, post hoc tests revealed that the difference between prevention-oriented and promotion-oriented individuals was significant for conventional objects (Studies 1 and 4) as well as for unconventional objects (Studies 1 and 3) in two out of three studies.

The result that in most of the studies, participants with a prevention focus differed from participants with a promotion focus also with regard to typicality ratings of conventional artworks is noteworthy: As detailed in the theoretical part, Friedman and Förster (2000) conducted a similar study varying motivational orientations, but did not find a difference for typical exemplars (see also Seibt & Förster, 2004). Note that there are quite a few differences

between the present studies and the study by Friedman and Förster. The authors varied avoidance versus approach motivation and pre-classified their objects with regard to typicality. Even more important, the objects used by Friedman and Förster are different to the objects used in the present study. It is rather difficult to imagine why a concrete versus abstract processing mode should lead to differential typicality estimates of a car (a typical exemplar for the category vehicle in the study by Friedman and Förster). Artworks such as *Water Music* (a conventional exemplar for the category art), on the other hand, can be characterized by great perceptual complexity that requires a focus on incidental, perceptual details, which is associated with a concrete, and not an abstract, processing mode. This particular fit between the processing requirements of conventional artworks and a concrete processing mode might have led to higher typicality estimates by prevention-oriented individuals than by promotion-oriented individuals. Moreover, in most of the cases, the objects that were considered very typical by prevention-oriented individuals were more conventional than the objects that were considered highly typical by promotion-oriented individuals (Studies 1 and 3). For example, in Study 3 the most typical artworks for participants with a prevention focus were *Water Music*, *Portrait of a Woman*, and *La Valse*, with a typicality mean of $M = 5.82$ ($SD = .79$), while the most typical artworks for participants with a promotion focus were *Daphne and Apollo*, *Countryside*, and *The Bull* with literally the same typicality mean of $M = 5.83$ ($SD = .79$). It is important to note that in this case the average typicality mean for the most typical objects did not differ notably between prevention-oriented and promotion-oriented individuals, just the artworks themselves were different.

Our hypothesis that prevention-oriented individuals have a more conventional prototype than promotion-oriented individuals received only partial support. In one out of three studies (Study 1), the most typical object of participants with a prevention focus was more conventional than the most typical object of participants with a promotion focus. The other

two studies provided either mixed (Study 3) or no support (Study 4) regarding that. In summary, further analyses and evidence, also based on more precise measures for prototypes (e.g., Mervis & Rosch, 1981), is needed to support the assumption that people with a prevention focus differ from people with a promotion focus also with regard to their prototype. Moreover, future research should focus on the question of to what extent this prototype might serve as a standard or anchor.

As a second indicator for attitudes, we examined the influence of regulatory focus on various measures capturing *behavioral* aspects (Studies 2 and 4). Generally, the effects for behavioral ratings were less pronounced than for other attitude measures. This might be due to methodological reasons. In Study 2 we asked participants to indicate how much they would spend for conventional versus unconventional artworks. Even though the predicted interaction was revealed, it was only marginally significant. As detailed, compared to the other studies there were a lot of methodological changes (e.g., between-subjects design) which might have weakened the effects. In Study 4 we asked participants to indicate whether they would actually order conventional versus unconventional dishes. Here, the predicted interaction failed to be marginally significant. We suggested that one possible explanation for the weak effects might be that stable food preferences have strongly influenced the intention to order a certain dish. In summary, it seems likely that if we had used a different design (within-subjects design) and different stimuli (no dishes, artworks that differ considerably in conventionality level) the effects of regulatory focus on behavioral attitude measures would have been even more pronounced. Nevertheless, our results generally support the assumption that prevention-oriented and promotion-oriented individuals differ also with regard to their behavior towards conventional versus unconventional objects.

Affective measures (Study 3) served as a third indicator for attitudes. As for typicality estimates, a significant main effect emerged for liking ratings, with conventional artworks being more liked than unconventional ones. This result further contributes to the huge amount

of findings showing that representational art (i.e., conventional) is preferred to modern and contemporary (i.e., unconventional) art (e.g., Konecni, 1984; McWhinnie, 1987; Millis, 2001; Tobacyk, Bailey, & Myers, 1979). Again, this main effect was qualified by a significant interaction. Prevention-oriented individuals liked conventional art more than promotion-oriented individuals whereas for unconventional art the reverse was true. We found literally the same result pattern in a study not presented here, where we varied regulatory focus and examined liking ratings of conventional versus unconventional artworks (Schimmel & Förster, 2005). Thus, the impact of regulatory focus on liking ratings seems to be a stable phenomenon.

It is important to note that not only situational regulatory focus but also chronic focus led to the predicted effects (Study 3), which contributes to those studies demonstrating the influence of personality variables on aesthetic appreciation (e.g., Rawlings, 2000). Moreover, in Study 3 we selected those participants whose situational regulatory focus was identical to their chronic regulatory focus and who thus can be characterized by a *regulatory fit* (Higgins, 2000). When conducting our analyses exclusively with these participants we found our predicted effects even more pronounced (all $ps < .001$; for a similar procedure see Förster & Higgins, 2005). Participants with a prevention fit (situational prevention focus/chronic prevention focus) had more favorable attitudes towards conventional artworks compared to participants with a promotion fit (situational promotion/chronic promotion focus). For unconventional artworks the reverse was true. This applied for typicality as well as for liking ratings. However, due to small group sizes (seven to ten participants per cell) these results serve as preliminary evidence only and need to be replicated with bigger groups.

Comparison of the Different Attitude Measures

It is significant that our focus manipulation led to roughly the same effects independent of the attitude measures used. However, the result *patterns* differ to some extent: For example,

slightly different result patterns emerged for typicality and liking ratings (see Figure 1)⁹ with regard to two aspects: firstly, overall typicality ratings were higher than overall liking ratings and secondly, for typicality ratings, a main effect for art type was revealed for promotion-oriented individuals whereas for liking ratings no such main effect resulted. Because these differential result patterns emerged in all studies encompassing either type of measure, this seems to be a pretty stable phenomenon that needs to be further analyzed.

One notable difference was that the overall ratings for typicality were higher than the overall ratings for liking and this accounted for situational as well as for chronic focus. In Study 3, for example, when calculating overall means capturing the ratings of the conventional and unconventional objects, we found higher means for typicality ratings ($M = 4.51$, $SD = .94$) than for liking ratings ($M = 3.45$, $SD = .69$), $F = 31.79$, $p < .001$. A similar pattern is yielded when including the typicality and liking means for all artworks. One possible explanation might be that overall typicality estimates are influenced by societal conventions about what art is whereas liking ratings are not, and that this accounts particularly for conventional artworks. For example, if someone had to evaluate the *Mona Lisa* by Leonardo da Vinci (1505, Musée National du Louvre, Paris): it can hardly be denied that this masterpiece is very typical for art. However, this does not necessarily mean that the *Mona Lisa* is *equally* well liked, even though typicality is a predictor for liking. It is important to note that when looking at other studies using typicality and liking ratings as dependent measures for (aesthetic) appreciation, similar absolute values emerge: in studies examining typicality ratings of objects, usually the mean of the overall typicality ratings is notable above the middle of the scale (Friedman & Förster, 2000). In studies examining liking of objects, instead, for example liking of representational versus abstract artworks, overall liking ratings range in the middle of the scale (e.g., Landau et al., in press).

⁹ The studies capturing behavioral measures will not be included in the comparisons, because they differed with regard to many methodological features to the studies examining typicality and liking ratings.

A second difference between typicality and liking ratings was that for typicality estimates a main effect for art type was found for promotion-oriented individuals whereas for liking ratings the latter did not emerge. Promotion-oriented individuals considered conventional artworks more typical than unconventional artworks, but they did not have a preference - measured by liking ratings - for either conventional or unconventional objects. These differential result patterns were revealed for situational as well as for chronic focus (Study 3) and were also shown in other studies not presented here (Schimmel & Förster, 2005). Also Friedman and Förster (2000) found a main effect for typicality for participants with an approach motivation. Concerning liking ratings, a result pattern similar to that in the present studies was found in a study by Keller et al. (2006, Study 5). The authors demonstrated that participants with a prevention focus were persuaded more by concrete information than by abstract information, whereas participants with a promotion focus were persuaded by both abstract and concrete information. We assume that abstract processing might contribute positively to goodness-of-fit ratings of atypical objects compared to concrete processing, however, that it cannot convert them into typical ones. Hence, a promotion focus can influence typicality only in a relative manner. Measures capturing more affective and hence more subjective aspects (e.g., liking ratings), instead, seem to be more influenced by situational accounts such as regulatory focus, so that the result patterns become stronger in the predicted direction.

In summary, the differential result patterns for typicality and liking ratings do not seem to be coincidental when comparing them to studies examining similar variables (Friedman & Förster, 2000; Keller et al., 2006). As aforementioned, typicality estimates might be strongly determined by (societal) conventions whereas measures capturing more affective aspects might be more influenced by subjective and situational accounts. This in turn might have contributed to the difference in overall ratings and to the differential interaction patterns for typicality and liking.

Additional Results

In all studies we assessed several control variables such as mood or art interest. In none of the studies we found support for a mediating role of mood. When using mood as a covariate in the analyses, the effects consistently remained significant. Moreover, in those studies where mood was assessed before the dependent measure we tested whether mood independently influenced attitudes judgments. Mood neither influenced ratings of conventional versus unconventional objects differentially (Gasper & Clore, 2002), nor did it influence the overall judgment of all artworks (Leder et al., 2004). This was true for all attitude measures used (cognitive, behavioral, affective). The absence of any effect of mood might be due to the fact that we used a fairly simple self-report measure for its assessment (“How do you feel right now?”). Hence, more precise and comprehensive measures should be used to further examine the role of mood with regard to the present effects. We should be careful, however, with including too sophisticated measures, because they might undermine the effect of our manipulation on attitudes. As expected, there was no influence of regulatory focus on art interest. In Study 3, however, art interest independently influenced attitudes towards artworks. When putting art interest as a covariate in our analyses, the predicted effects remained the same, indicating that the effects of regulatory focus on attitudes were independent of art interest.

Underlying Processes

As detailed in the theoretical part, the influence of regulatory focus on attitudes toward artworks might be mediated by different mechanisms such as processing modes (concrete vs. abstract processing) or strategic inclinations (e.g., vigilant vs. risky style). We will reconsider these assumptions by linking them to the present results and related literature.

Processing Modes

Regarding the studies using artworks, there are indeed many reasons to assume that processing modes were a mediator for the differential attitudes towards artworks between prevention-oriented and promotion-oriented individuals: first of all, one might consider that the processing requirements of artworks in general (e.g., the demand for interpretation and for extraction of meaning) are mainly cognitive in nature. Moreover, the consistent finding that prevention-oriented individuals used narrower categories than promotion-oriented individuals can be interpreted in terms of a difference in processing modes (e.g., Rosch & Mervis, 1975). Even though differences in category breadth are usually explained by cognitive mechanisms (e.g., Friedman & Förster, 2000; Seibt et al., 2005), strategic inclinations, as for example a vigilant versus risky tendency, might also have led to the difference in category breadth. Because people with a prevention focus are vigilant, they concentrate on maximizing “correct rejections” and use a relatively strict criterion for rejecting potential candidates, thus leading to narrower categories. Because people with a promotion focus behave riskily in order to succeed, they concentrate on maximizing “hits” and use a relatively lenient criterion for accepting potential candidates, thereby making use of broader categories. Whereas this explanation might account for the evaluation of unconventional artworks, it is quite difficult to ascribe the impact of regulatory focus on the evaluation of conventional artworks to strategic inclinations. Why should someone vigilant consider the *The Cardinal*, for example, as more typical than someone who is willing to take risks? There are many reasons, instead, to assume that a concrete processing mode contributes to more favorable attitudes towards conventional artworks compared to an abstract processing mode. Hence, to further examine whether our effects are cognitively based, an additional experiment was conducted. The results of this study (Study 5) strengthen even more an explanation in favor of processing modes. The result pattern after a distance manipulation, which had been considered a pure cognitive variable in the respective literature (Trope & Liberman, 2003), was almost identical

to the ones after a regulatory focus manipulation (Studies 1, 3, and 4; see Figures 1 and 3). This apparent similarity in results supports our hypothesis that both the regulatory focus as well as the distance manipulation, activated processing modes. To summarize, our assumption that processing modes mediate the effects of regulatory focus on attitudes towards artworks is supported by ample evidence from the present data set.

Meaning Extraction

As proposed in the theoretical part, one means by which processing modes might enhance aesthetic appreciation, such as liking of artworks, might be by their impact on meaning extraction. This has not been subject to direct examination in the present study set. Because the present samples seemed to stem from people very naïve about art, as reflected by our control measures on art interest and art-related knowledge, it seems unlikely that our participants accessed art-specific knowledge in order to enrich them with meaning. Thus, it can be assumed that meaning extraction bolstered by an abstract processing mode might have contributed to the enhanced liking of unconventional artworks by participants with a promotion focus in the present studies. This needs to be examined further in future studies.

Note that enhanced meaning of an artwork might not only lead to increased liking ratings but also to an increase in typicality. According to Loken and Ward (1990), meaningfulness, is one determinant of typicality. For example, Hampton and Gardiner (1983; see also McCloskey, 1980; Schwanenflügel & Ray, 1986) asked subjects to rate category members according to their meaningfulness and found a correlation between meaningfulness (“How familiar are you with the meaning of the word?”) and typicality (“How typical is this word for the category it belongs to?”). Even though the causal direction of this relationship is not clear, it might account for the assumption that the amount of meaning one associates with an artwork might have influenced typicality estimates in the present set of studies.

Categorical Processing

Based on the preference-for-prototypes model (Martindale, 1988; Whitfield, 1983) we assumed that another means by which processing modes lead to differential appreciation of conventional versus unconventional artworks might be categorical processing. We found strong evidence for the hypothesis that typicality mediates the influence of regulatory focus on affective and behavioral attitude measures. The beta weights for the relationship between typicality and affective ($\beta = .78$, Study 3) as well as behavioral ($\beta = .66$, Study 4) judgments are very high, almost reaching the conventional border of reliability coefficients (Tent & Stelzl, 1993). In particular with regard to typicality and liking ratings, it seems legitimate to ask whether they represent two different constructs. One explanation for this strong relationship might be what we call circularity. Here, participants might have reasoned: “because I regard something as typical, I must like it” (Boselie, 1996). This might be particularly true for the domain of art where its legitimacy is an important topic. Because it can be assumed that art generally represents a positive concept in the sense that people look favourably upon art, membership to the category art should automatically be associated with positive affective judgments. Note that membership to a category does not necessarily have to be positive. For example, just because a murderer is regarded as very typical for the category criminals does not mean that he is also liked.

It is important to note that in a study not presented here we got almost identical results when assessing liking ratings without having examined typicality previously (Schimmel & Förster, 2005). This supports the assumption that participants did not exclusively form their opinion regarding liking just because they were *explicitly* asked for typicality estimates in advance. Considering that the result patterns are literally the same when liking is assessed singularly or when it is assessed after typicality, it is likely that when being confronted with art, people automatically include considerations regarding its typicality in order to give affective judgments. To conclude, based on the results of the present project it seems very likely that

“we tend to like things we perceive as typical of their kind“ (Gaver & Mandler, 1987, p. 271). However, it remains open to future research what the exact mediating processes (e.g., enhanced meaning, circularity, processing fluency) between typicality and affective as well as typicality and behavioral judgments are.

Let us illustrate our theoretical reasoning with regard to the means by which processing modes might have led to differential liking ratings by looking at those conventional and unconventional artworks that created notable differences between participants with a prevention focus and those with a promotion focus (Studies 1 and 3).

Even though we hypothesized that conventional artworks might be differentially evaluated by people differing in regulatory focus and, respectively, in processing modes, it was somewhat unexpected that we found such strong effects, which also appeared consistently. One conventional artwork that created notable differences in evaluative ratings between participants differing in regulatory focus was *Water Music* by Antonio Canaletto (Studies 1 and 3). *Water Music* depicts in a very detailed and refined manner a concert scene on the river Thames with the St. Paul’s Cathedral in the background. Concerning the notion of meaning, it can be assumed that a concrete processing mode with its focus on concrete percepts might foster the extraction of immediate obvious meaning and that this, in turn, has an impact on affective judgment.

The preference-for-prototypes model predicts a linear relationship between typicality and preference judgments. Hence, the notion of a mediating effect of typicality applies also to conventional objects, which received empirical support (Studies 3 and 4). Nevertheless, whereas for unconventional artworks such as the *Chair with Fat* considerations regarding its meaning and typicality seem to be crucial prerequisites for its liking, these considerations might not be of primary importance for conventional artworks. Another possible explanation might be that a concrete processing mode has a beneficial impact on liking of conventional

artworks because of their complexity – as detailed, conventional artworks can be characterized by high complexity. In line with this reasoning, a concrete processing mode is associated with the construction of complex representations whereas an abstract processing mode is associated with simple structures (Liberman et al., 2002, Study 2; Trope & Liberman, 2003). Future theorizing and research should therefore focus more on the means by which a concrete processing mode leads to enhanced appreciation of conventional artworks.

The *Fountain* by Marcel Duchamp (1917, Philadelphia Museum of Art, Philadelphia) was an unconventional artwork that consistently created notable differences between prevention-oriented and promotion-oriented individuals. It is important to note that the *Fountain* is in artistic terms a so-called *ready-made* because it represents an everyday object (Kleiner et al., 2001), namely a porcelain urinal. Processing modes might have led to differential aesthetic appreciation of the *Fountain* by their impact on meaning extraction: because the *Fountain* can be usually found in a different environment than the museum, it bolsters strong associations that might be irrelevant for the context of art (e.g., a cleansing agent such as “Domestos”). Hence, moving beyond the specifics (i.e., a porcelain urinal), thereby extracting meaning (e.g., by generating hypotheses about the object), might have led to enhanced appreciation by participants with a promotion focus, which needs to be examined in the future.

As shown, categorical processing was one means by which regulatory focus influenced aesthetic appreciation of the *Fountain*: because the *Fountain* is indistinguishable from its real life counterparts, in this case urinals, a categorization of this object in the category art might be difficult. In all studies presented, participants with a prevention focus regarded the *Fountain* as less typical than participants with a promotion focus (Studies 1 and 3), which accounts for a more inclusive categorization on the side of participants with a promotion

focus for the category art. This difference in typicality estimates, in turn, led to a difference in liking ratings (Study 3).

Concerning the study using dishes (Study 4), it is more difficult to come to a conclusion with regard to the mediating processes because dishes were used as attitude objects only in one experiment and no additional study was conducted to further examine the mechanisms as done with artworks. As demonstrated in Study 4, behavioral evaluative ratings were mediated by typicality estimates, which supports a processing mode-related explanation (Liberian et al., 2002). Moreover, in connection with the results of the other studies examining typicality estimates (Studies 1, 3, and 5), it seems quite probable that cognitive mechanisms have remarkably contributed to the results. Nevertheless, it cannot be ruled out that other processes such as strategic inclinations might also have had an impact on the effects, particularly with regard to behavioral ratings. For example, to order an unconventional dish such as *Hot Chocolate with Octopus Leg*, the willingness to take risks and openness for new experiences might also be important (Crowe & Higgins, 1997; Liberman et al., 1999). However, this has not been tested yet and needs further examination.

Despite the ample evidence, supporting a cognitive explanation of our effects for artworks, it cannot be excluded that additional variables such as strategic inclinations (Liberian et al., 1999; Rawlings, 2000) might have affected the present results which will be detailed in the following.

Strategic Inclinations

In the theoretical part it was detailed that strategic inclinations influence aesthetic judgment (e.g., Rawlings, 2000). In the following, we want to discuss the role of a preference for stability versus preference for change with regard to the present results (Liberian et al., 1999). Several studies demonstrate that familiar objects, in this case objects people have been exposed to frequently, are perceived as more typical than unfamiliar objects (Ashcraft, 1978;

Barsalou, 1985; Glass & Meany, 1978; Malt & Smith, 1982). Applying this to the present project, one could argue that our participants have been exposed more frequently to conventional artworks than to unconventional ones, which in turn leads to the overall result that conventional objects were conceived as more typical than unconventional ones. However, in the realm of fine arts - particularly of unconventional art, where striving for novelties is a dominant force and originality is highly valued (Hekkert & van Wieringen, 1996; Martindale et al., 1990) - novelty might be a defining characteristic of an artwork's typicality, too. Recently, Hekkert, Snelders, and van Wieringen (2003) examined the influence of typicality (i.e., familiarity) and novelty on aesthetic preference of consumer's products (e.g., telephones). The authors demonstrated that typicality (i.e., goodness-of-fit) and novelty (i.e., originality) are jointly and equally effective in explaining aesthetic preference, but that they suppress each other's effects. Note that Hekkert et al. (2003) use familiarity and typicality interchangeably whereas we conceive familiarity as one determinant among others of typicality. It can be assumed that both familiarity and novelty can be positive determinants of the typicality of an artwork and that this might depend on the artwork's conventionality level and the beholder's regulatory focus. Considering the results by Liberman et al. (1999) presented in the theoretical part, it seems likely that prevention-oriented individuals with their preference for familiar objects might conceive familiarity as one defining aspect of an artwork's typicality, while promotion-oriented individuals with their preference for new objects might conceive novelty as one defining aspect of typicality. Further in line with this notion, recent studies from our laboratory demonstrate a relationship between familiarity and a concrete processing mode and between novelty and an abstract processing mode (Förster, 2006). Hence, processing modes and strategic inclinations in the sense of preference for familiar versus new do not necessarily have to be conceived of as two opposing but as two complementary explanations.

But what are the means by which familiarity influences appreciation of artworks such as liking ratings? Several studies have reported an increase in positive affect towards a stimulus after repeated, un-reinforced exposure (for a review see Bornstein, 1989). This phenomenon has been labeled *mere exposure effect* (MEE, Zajonc, 1968). However, studies testing the MEE for artworks had ambiguous or no results (e.g., Stang, 1974, 1975). Considering the studies by Liberman et al. (1999), we assume that the MEE might be differently pronounced for people differing in regulatory focus. In particular, we assume that people with a prevention focus are more affected by the MEE than people with a promotion focus, which was supported in a preliminary study (Schimmel & Förster, 2006)¹⁰. Thus, one could argue that the effects found are due to a MEE: a more frequent exposure to conventional objects than to unconventional objects raises positive attitudes towards them, as indicated by a main effect of conventionality. However, this effect is more pronounced for people with a prevention focus than for people with a promotion focus, as shown by the resulting interaction. Note that familiarity of artworks was not included as a dimension in our pretest. Moreover, in the studies conducted we did not assess familiarity in the sense of exposure frequency (“Have you ever seen this artwork?”). Instead, we assessed art specific-knowledge (“Do you know the object?” and “Do you know the artist who created the object?”). Hence, because we cannot test our assumptions concerning the MEE with the present data set our assumption regarding the mediating influence of strategic inclinations needs to be examined more thoroughly in future studies.

Other Processes

Another mechanism responsible for the results might be regulatory fit (Higgins, 2000). “People experience a *regulatory fit* when they use goal pursuit means that fit their regulatory

¹⁰ We varied motivational orientations between participants and presentation frequency of simple polygons within participants. Afterwards, we collected liking ratings for these polygons. Generally, participants liked polygons that had been presented several times more than those that had not been presented at all or only once. This main effect, which replicates the classical MEE, was qualified by a significant interaction. Individuals with

orientation, and this regulatory fit increases the value of what they are doing“ (Higgins, 2000, p. 1217). Particularly important for the present project is the finding that regulatory fit has an influence on attitudes (Aaker & Lee, 2001; Cesario, Grant, & Higgins, 2004; Higgins et al., 2003; Lee & Aaker, 2004). For example, Lee and Aaker (2004) varied regulatory focus (avoiding negative consequences vs. approaching positive consequences) and varied strategic means by presenting ads that were either loss framed (prevention-focus) or gain-framed (promotion-focus). In line with their predictions, participants in the fit conditions (prevention focus/loss frame and promotion focus/gain frame) were more persuaded than participant in the misfit conditions. Even though there are some similarities, the present set of studies can hardly be interpreted in terms of fit. One major difference between classical fit experiments and the present studies is that we did not vary strategic means, just the conventionality level of artworks. Moreover, in fit experiments both regulatory focus as well as strategic means, are varied between-subjects whereas in the majority of the present studies (except for Study 2) only regulatory focus was varied between-subjects, while conventionality level was varied within-subjects. Even though the notion of regulatory fit in its classical sense cannot be applied to the present project, one could argue that prevention-related vigilance and promotion-related eagerness and its related processes fit differently well to the processing requirements for appreciating conventional versus unconventional objects.

Arousal processes as detailed in Berlyne’s influential theory of aesthetic preference (Berlyne, 1971, 1974) might be another possible explanation for our results besides processing modes and strategic inclinations. According to Berlyne (1960, 1970, 1974), aesthetic pleasure is an inverted U-function of arousal potential: stimuli with a medium arousal potential are liked most. Empirical tests of Berlyne’s assumptions have led to mixed results (for a critical overview see Martindale et al., 1988, 1990). Applying Berlyne’s assumptions to the present project, one could argue that unconventional objects lead to higher arousal than conventional

an avoidance motivation liked polygons that had been presented several times more than individuals with an

objects (Furnham & Walker, 2001). Moreover, prevention-oriented individuals might be either differently aroused than promotion-oriented individuals or might have a different level of optimal arousal. In particular, prevention-oriented individuals might prefer lower levels of arousal than promotion-oriented individuals. Indirect evidence for this hypothesis is provided by studies showing that a prevention focus is associated with vigilance and a promotion focus is associated with risk-taking (Crowe & Higgins, 1997), because risk taking can be associated with high arousal (Zuckerman, 1979). Generally, the notion of arousal (Berlyne, 1974) as an additional process would fit into our framework but this is speculative at this point of time and needs to be further examined in future studies.

Boundary Conditions

In the following section we want to discuss some possible boundary conditions for our theoretical framework, which are related to the time dependence of conventionality level and the role of experts.

We assume that the mechanisms responsible for the results apply independently of the time they are examined in; however, the stimuli underlie the zeitgeist. In short, judgments about art depend on the *time* they are made in (Eco, 2004). A very famous example is the *Olympia* by Edouard Manet (1863, Musee d'Orsay, Paris), a painting depicting a naked woman lying on a bed. When this piece of art was first introduced in 1865, it scandalized the public: “Manet’s work *Olympia*, [...] shocked so much the public [...]. Not only was the painting highly criticized, but it was also treated with scornful abuse, some furious visitors beating it by using their walking sticks and umbrellas. [...] They really flared into a fury because of the violation of the unspoken conventions accepted by society and the intellectuals” (“About Manet”, 2005). If we had examined Manet’s *Olympia* in our studies we would have assumed the following: firstly, it would have been rated as very conventional and secondly, people

with a prevention focus would have evaluated it more favorably than people with a promotion focus. In the nineteenth century, instead, we would have probably found the opposite pattern. Similarly, our studies would lead to different results in one hundred years if we used the same artworks. This accounts also for dishes: the unconventional dishes (e.g., *Hot Chocolate with Octopus Leg*) were mainly “borrowed” from so-called *Fusion Cuisine*, a fairly new type of kitchen combining elements of various culinary traditions, for example between European and Asian food (“Fusion Cuisine”, 2005). Because more and more fusion cuisine restaurants are opening, these dishes might not be conceived of as unconventional in the future any more.

We want to address another boundary condition: in the realm of art, it has often been demonstrated that experts’ aesthetic judgments differ considerably from those of lay people (e.g., Locher, J. K. Smith, & L. F. Smith, 2001). As reflected by our data on art interest and knowledge, our participants can be categorized as novices with regard to art. We assume that if we did the same studies with experts, we would have found different results. Support for this prediction comes from two sets of studies, one dealing with the differential attitudes of novices versus experts towards unconventional art, the other set dealing with the use of prototypes by experts. Generally, with increasing expertise the well-documented preference for conventional to unconventional artworks (e.g., Konecni, 1984) seems to diminish (Hekkert & van Wieringen, 1996; O’Hare, 1976). Cupchik et al. (1994), for example, showed that experienced viewers evaluated rhetorical art (i.e., unconventional art) more favorably than narrative art (i.e., conventional art) whereas for naïve viewers the opposite was true. This might be due to the fact that experts seem to approach an artwork differently than naïve viewers (e.g., Nodine, Locher, & Krupinski, 1993). For example, inexperienced observers pay much attention to the realism of content (O’Hare, 1976), whereas experienced observers interpret a painting in terms of form, style, abstract message or meaning (Gombrich, 1960).

By doing so, experts might develop different prototypes than lay people (Hekkert & van Wieringen, 1996; O’Hare, 1976). This hypothesis receives support from the study by Hekkert

and colleagues (2003) cited above. The authors found that typicality and novelty were significantly negatively inter-correlated for untrained participants, whereas for experts they were not. Moreover, Purcell (1984; see also J. D. Smith & Melara, 1990) demonstrated that attractiveness of houses was significantly related to goodness-of-fit ratings for his general sample, but not for a group of architecture students (i.e., experts). We assume that the ideas regarding experts presented above also apply to other kinds of attitude objects such as dishes. To summarize, compared to lay people, experts seem to approach meaning and typicality of artworks differently. Hence, it is improbable that the results of the present studies can be generalized to more sophisticated audiences.

Future Studies

We have gathered ample evidence supporting our hypotheses. Nevertheless, some questions remain unanswered and need to be further examined in future studies. It would be interesting to extend our findings to other regulatory focus and psychological distance manipulations (Liberian et al., 2005). As demonstrated in Study 2, our results are not limited to a particular focus manipulation. Temporal distance is only one of four types of psychological distances (Liberian et al., 2005). It would be of special interest to examine the influence of spatial distance on the evaluation of art objects. We assume that presenting unconventional objects from a spatially distant perspective would influence attitude ratings positively. This makes not only theoretically but also practically sense: conventional artworks often represent distinct, very detailed objects (e.g., *The Cardinal* by Lucas Cranach) that are easier to grasp from a proximal perspective, whereas unconventional objects (e.g., *Chair with Fat* by Joseph Beuys) are easier to grasp from a certain distance. Nevertheless, we do think that distancing itself is only effective when it activates processing modes at the same time. Moreover, varying other cues that are supposed to bolster concrete versus abstract processing should lead to similar effects. For example, manipulating motivational orientations

(avoidance/approach; Cacioppo, Priester, & Berntson, 1993) should have a similar impact on the evaluation of conventional versus unconventional objects.

We outlined that one means by which processing modes influence aesthetic appreciation might be meaning extraction, which should be examined in the future. Studies from empirical aesthetics provide ideas on how to assess meaningfulness, for example by simply asking participants how meaningful a stimulus (e.g., polygons, Martindale et al., 1990, Study 3) or an artwork is (e.g., Martindale et al., 1990, Studies 6 and 7). Munsinger and Kessen (1964), instead, had participants generate different possible meanings and used the total number of generated meanings as an indicator for meaningfulness. Notably, this task strongly reminds of classical tasks on creative generation or divergent thinking, as the brick task (Guilford, 1967, 1986). Another possibility would be adding meaning to unconventional artworks as done by Landau et al. (in press) and checking whether our effects diminish.

In the present project we were able to successfully demonstrate that categorization processes are one means by which regulatory focus influence aesthetic appreciation (Studies 3 and 4). However, we did not examine the exact mechanisms by which regulatory focus influences categorical processing. For example, the assumption that promotion-oriented individuals detect more similarities between conventional and unconventional artworks than prevention-oriented individuals received only indirect support in the present project. Hence, it would be interesting to ask participants differing in regulatory focus for similarity ratings of conventional and unconventional artworks (see Seibt et al., 2005, Study 2). Another intriguing possibility would be to examine whether prevention-oriented individuals differ from promotion-oriented individuals with regard to their concept about art (Mäckler, 2003). We assume that people with a prevention focus would have a more concrete concept, which excludes a variety of artworks, whereas people with a promotion focus would have a more abstract, inclusive concept.

Other mediating processes, such as strategic inclinations, should be subject to thorough examination. In particular, it would be interesting to conduct a similar study to that done by Hekkert et al. (2003) and test the relative importance prevention-oriented and promotion-oriented individuals attach to familiarity as opposed to novelty. Accordingly, it should be examined whether the results found regarding the differential influence of regulatory focus on the MEE can be extended to artworks (Schimmel & Förster, 2006).

Practical Implications

Not only attitudes towards *objects* ranging in conventionality should be influenced by regulatory focus, but all kinds of attitude domains. Thus, the logic of our theoretical framework has important implications for interpersonal and public life. The present research suggests that in all of these domains, regulatory focus, either chronic or induced, would be an important determinant of whether people like conventional or unconventional measures. This plays a role, for example, in politics, where “unconventional” decisions such as the legalization of gay marriages are taken.

More specifically, our theoretical framework can be applied to attitude domains where considerations about the typicality of an attitude object play a role such as person perception. For example, an unconventional professor should be regarded as more typical for the category professor and should also be more liked by people with a promotion focus compared to people with a prevention focus (Levy, Freitas, & Salovey, 2002). This has implications for a variety of fields such as personnel selection. Similarly, our theoretical framework should apply to attitude domains where the extraction of meaning is a crucial prerequisite for the appreciation of the attitude object. For example, framing messages either in a blatant, blunt manner or by using metaphors (Beeman, 1998), thereby transmitting a hidden meaning should lead to differential appreciation levels between prevention-oriented and promotion-oriented individuals (Aaker & Lee, 2004; Semin et al., 2005).

The research on situational accounts is particularly important because it provides clues on possible alterations of contextual variables in the field in order to influence attitudes positively. Hence, the present work and research on situational regulatory focus in general (e.g., Freitas & Higgins, 2002; Semin et al., 2005) provide insight into which alterations of the environment might lead to an increase or decrease in attitudes respectively. Coming back to the domain of art, museums exhibiting contemporary, unconventional art might consider creating a “secure” or “benign” environment because it can be assumed that this bolsters a promotion focus and leads to favorable attitudes towards the artworks. This would be in line with those critics asking for less interpretative support by the museums and for more mental effort on the side of the observer (Hughes, 1993).

Concluding Remarks

To the best of our knowledge we were able to demonstrate for the first time that regulatory focus has a direct influence on attitudes towards conventional versus unconventional objects. In line with our assumptions, prevention-oriented individuals have more favorable attitudes towards conventional stimuli than promotion-oriented individuals whereas promotion-oriented individuals have more favorable attitudes towards unconventional stimuli than prevention-oriented individuals. This was shown for measures capturing different aspects of attitudes, namely cognitive, behavioral, and affective aspects. Moreover, our theoretical framework proposes how these different measures are interrelated. It suggests that stimuli are affectively processed in terms of their category membership and that the extent, to which stimuli are conceived as typical of a category, is an important source for affective and behavioral attitudes. We gathered ample evidence supporting the hypothesis that the difference in processing modes between prevention-oriented and promotion-oriented individuals led to the effects.

We yielded our effects by using an unrelated task paradigm, meaning that our participants were not aware of our focus or distance manipulation. This suggests that very subtle cues can influence attitudes. Moreover, our effects emerged not only for these situational manipulations but also for chronic focus. Especially in empirical aesthetics *situational* variables have been neglected. The research on situational accounts is particularly important because it provides clues on possible alterations of contextual variables in the field in order to influence attitudes positively.

In summary, regulatory focus theory seems to be a good framework for understanding attitudes towards conventional versus unconventional objects. Not only that, but it provides an ample basis for future studies and possible interventions in the field to enhance the appreciation for either type of object.

REFERENCES

- Aaker, J. L., & Lee, A. Y. (2001). „I“ seek pleasures and „we“ avoid pains: the role of self-regulatory goals in information processing and persuasion. *Journal of Consumer Research*, 28, 33-49.
- About Manet*. Retrieved September 9, 2005, from http://www.viaartis.org/en/Manet/PIC_Manet-MORx1863.php
- Academic art*. Retrieved September 9, 2005, from http://en.wikipedia.org/wiki/Academic_art
- Amabile, T. M. (1982). A consensual assessment technique. *Journal of Personality and Social Psychology*, 43, 997-1013.
- Arnheim, R. (1969). *Visual thinking*. Berkeley: University of California Press.
- Ashcraft, M. H. (1978). Property norms for typical and atypical items from 17 categories: A description and discussion. *Memory and Cognition*, 6, 227-232.
- Baltissen, R., & Ostermann, B. M. (1998). Are the dimensions underlying aesthetic and affective judgments the same? *Empirical Studies of the Arts*, 16, 97-113.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Barsalou, L. (1985). Ideals, central tendency, and the frequency of instantiation as determinants of graded structure in categories. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 11, 629-654.
- Beeman, M. (1998). Coarse semantic coding and discourse comprehension. In M. Beeman & C. Chiarello (Eds.), *Right hemisphere language comprehension: Perspectives from cognitive neuroscience* (pp. 255-284). Mahwah, NJ: Erlbaum.
- Berlyne, D. E. (1960). *Conflict, Arousal, and Curiosity*. New York: McGraw-Hill.
- Berlyne, D. E. (1970). Novelty, complexity, and hedonic value. *Perception and Psychophysics*, 8, 279-286.
- Berlyne, D. E. (1971). *Aesthetics and psychobiology*. New York: Appleton-Century-Crofts.
- Berlyne, D. E. (1974). *Studies in new experimental aesthetics*. New York: Wiley.
- Beuys, J. (1986). *In Memoriam Joseph Beuys: Obituaries, Essays, Speeches*. Translated into English by Timothy Nevill. Bonn: Inter Nationes Bonn.

Bink, M. L., & Marsh, R. L. (2000). Cognitive regularities in creativity. *Review of General Psychology*, 4, 59-78.

Bless, H., Mackie, D. M., & Schwarz, N. (1992). Mood effects on attitudes judgments: independent effects of mood before and after message elaboration. *Journal of Personality and Social Psychology*, 63, 585-595.

Bornstein, R. F. (1989). Exposure and affect: Overview and meta-analysis of research, 1968-1987. *Psychological Bulletin*, 102, 265-289.

Boselie, F. (1991). Against prototypicality as a central concept in aesthetics. *Empirical Studies of the Arts*, 9, 65-73.

Boselie, F. (1996). Prototypicality revisited: A rejoinder to Hekkert and Snelders. *Empirical Studies of the Arts*, 14, 99-104.

Cacioppo, J. P., Priester, J. R., & Berntson, G. G. (1993). Rudimentary determinants of attitudes. II: Arm flexion and extension have differential effects on attitudes. *Journal of Personality and Social Psychology*, 65, 5-17.

Carver, S., & White, L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impeding reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology*, 67, 319-333.

Cesario, J., Grant, H., & Higgins, E. T. (2004). Regulatory fit and persuasion: Transfer from "feeling right". *Journal of Personality and Social Psychology*, 3, 388-404.

Clore, G. L., Schwarz, N., & Conway, M. (1994). Affective causes and consequences of social information processing. In R. S. Wyer, Jr., & T. K. Srull (Eds.), *Handbook of social cognition: Vol. 2. Applications* (2nd ed., pp. 323-417). Hillsdale, NJ: Erlbaum

Costa, P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory and NEO Five-Factor Inventory*. Odessa, FL: Psychological Assessment Resources.

Crowe, E., & Higgins, E. T. (1997). Regulatory focus and strategic inclinations: Promotion and prevention in decision-making. *Organizational Behavior and Human Decision Processes*, 69, 117-132.

Cupchik, G. C., & Gebotys, R. J. (1988). The search for meaning in art: Interpretative styles and judgments of quality. *Visual Arts Research*, 14, 38-50.

Cupchik, G. C. & Gebotys, R. J. (1990). Interest and pleasure as dimensions of aesthetic response. *Empirical Studies of the Arts*, 8, 1-40.

Cupchik, G. C., Shereck, L., & Spiegel, S. (1994). The effects of textual information on artistic communication. *Visual Arts Research*, 20, 38-50.

Dewey, J. (1934). *Art as experience*. New York: Minton, Balch.

- Eco, U. (2004). *Die Geschichte der Schönheit*. München: Carl Hanser Verlag.
- Ekstrom, R. B., French, J. W., Harman, H. H., & Dermen, D. (1976). *Manual for kit of factor-referenced cognitive tests*. Princeton, NJ: ETS.
- Farkas, A. (2002). Prototypicality-effect in surrealist paintings. *Empirical Studies of the Arts*, 20, 127-136.
- Faz.net. Retrieved January 15, 2006, from <http://www.faz.net/s/RubEBED639C476B407798B1CE808F1F6632/Doc~E59528F80B68141D2BB032D01C706DCA0~ATpl~Ecommon~Scontent.html>
- Faz.net1. Retrieved January 16, 2006, from <http://www.faz.net/s/RubCC21B04EE95145B3AC877C874FB1B611/Doc~EA073D54C16474A63B28CB222F4DDDF7F~ATpl~Ecommon~Scontent.html>
- Feist, G. J., & Brady, T. R. (2004). Openness to experience, non-conformity, and the preference for abstract art. *Empirical Studies of the Arts*, 22, 77-89.
- Förster, J. (2006). Preparing for novel vs. familiar events: Shifts in global vs. local processing. *Manuscript in preparation*, International University Bremen.
- Förster, J., Friedman, R., & Liberman (2004). Temporal construal effects on abstract and concrete thinking: Consequences for insight and creative cognition. *Journal of Personality and Social Psychology*, 87, 177-189.
- Förster, J., Friedman, R., Özelsel, A., & Denzler, M. (in press). Enactment of approach and avoidance behavior influences the scope of perceptual and conceptual attention. *Journal of Experimental Social Psychology*.
- Förster, J., & Higgins, E. T. (2005). How global versus local perception fits regulatory focus. *Psychological Science*, 16, 631-636.
- Förster, J., Higgins, E. T., & Idson, L. C. (1998). Approach and avoidance strength as a function of regulatory focus: Revisiting the „goal looms larger” effect. *Journal of Personality and Social Psychology*, 75, 1115-1131.
- Freitas, A. L., & Higgins, E. T. (2002). Enjoying goal-directed action: the role of regulatory fit. *Psychological Science*, 13, 1-6.
- Freitas, A. L., Salovey, P., & Liberman, N. (2001). Abstract and concrete self-evaluative goals. *Journal of Personality and Social Psychology*, 80, 410-412.
- Friedman, R., & Förster, J. (2000). The effects of approach and avoidance motor actions on the elements of creative insight. *Journal of Personality and Social Psychology*, 79, 477-492.

Friedman, R., & Förster, J. (2001). The effects of promotion and prevention cues on creativity. *Journal of Personality and Social Psychology*, 81, 1001-1013.

Friedman, R., & Förster, J. (2002). The influence of approach and avoidance motor actions on creative cognition. *Journal of Experimental Social Psychology*, 38, 41-55 .

Friedman, R., & Förster, J. (2005). Effects of motivational cues on perceptual asymmetry: Implications for creativity and analytical problem solving. *Journal of Personality and Social Psychology*, 88, 263-275.

Frith, C. D., & Nias, D. K. B. (1974). What determines aesthetic preferences? *Journal of General Psychology*, 79, 3-17.

Furnham, A., & Bunyan, M. (1988). Personality and preferences. *European Journal of Personality*, 2, 67-74.

Furnham, A., & Walker, J. (2001). Personality and judgments of abstract, pop art and representational paintings. *European Journal of Psychology*, 15, 57-72.

Fusion Cuisine. Retrieved December 7, 2005, from http://en.wikipedia.org/wiki/Fusion_cuisine

Gasper, K., & Clore, G. (2002). Attending to the big picture: Mood and global versus local processing of visual information. *Psychological Science*, 13, 34-40.

Gaver, W. W., & Mandler, G. (1987). Play it again, Sam: On liking music. *Cognition and Emotion*, 1, 259-282.

Glass, A. L., & Meany, P. J. (1978). Evidence for two kinds of low-typical instances in a categorization task. *Memory and Cognition*, 6, 622-628.

Gombrich, E. H. (1960). *Art and illusion*. London: Phaidon.

Gray, J. A. (1991). The neuropsychology of temperament. In J. Strelau and A. Angleitner (Eds.), *Explorations of temperament* (pp. 105-128). London: Plenum Press.

Guilford, J. P. (1967). *The nature of human intelligence*. New York: McGraw-Hill.

Guilford, J. P. (1986). *Creative Talents: Their Nature, Uses and Development*. Buffalo, NY: Bearly Ltd.

Hampton, J., & Gardiner, M. (1983). Measures of internal category structure: a correlational analysis of normative data. *British Journal of Psychology*, 74, 491-516.

Harlow, R. E., Friedman, R., & Higgins, T. (1997). *The Regulatory Focus Questionnaire*. Unpublished manuscript, Columbia University New York.

- Hekkert, P., & Snelders, H. (1991). Prototypicality as an explanatory concept in aesthetics: a reply to Boselie (1991). *Empirical Studies of the Arts*, 13, 149-160.
- Hekkert, P., Snelders, D., & van Wieringen, P. C. W. (2003). Most advanced, yet acceptable: Typicality and novelty as joint predictors of aesthetic preference in industrial design. *British Journal of Psychology*, 94, 111-124.
- Hekkert, P., & van Wieringen, P. C. W. (1990). Complexity and prototypicality as determinants of appraisal of cubist paintings. *British Journal of Psychology*, 81, 483-495.
- Hekkert, P., & van Wieringen, P. C. W. (1996). Beauty in the eye of expert and non-expert beholders: A study in the appraisal of art. *American Journal of Psychology*, 109, 389-407.
- Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review*, 94, 319-340.
- Higgins, E. T. (1989). Self-discrepancy theory: What patterns of self-beliefs cause people to suffer? In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 22, pp. 93-136). New York: Academic Press.
- Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist*, 52, 1280-1300.
- Higgins, E. T. (1998). Promotion and prevention: regulatory focus as a motivational principle. *Advances in Experimental Social Psychology*, 30, 1-46.
- Higgins, E. T. (2000). Making a good decision: Value from fit. *American Psychologist*, 55, 1217-1230.
- Higgins, E. T., Friedman, R. S., Harlow, R. E., Idson, L. C., Ayduk, O. N., & Taylor, A. (2001). Achievement orientations from subjective histories of success: promotion pride vs. prevention pride. *European Journal of Social Psychology*, 31, 3-23.
- Higgins, E. T., Idson, L. C., A. L., Molden, D. C., & Spiegel, S. (2003). Transfer value from fit. *Journal of Personality and Social Psychology*, 84, 1140-1153.
- Higgins, E. T., Shah, J., & Friedman, R. S. (1997). Emotional responses to goal attainment: Strength of regulatory focus as a moderator. *Journal of Personality and Social Psychology*, 72, 515-525.
- Hughes, R. (1993). Masterpiece theatre. (Review of making the mummies dance: inside the Metropolitan Museum of Art). *New York Review of Books*, 11, 8-14.
- Isen, A. M. (1987). Positive affect, cognitive processes, and social behavior. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 20, pp. 203-253). New York: Academic Press.

- Isen, A. M. (2000). Positive affect and decision making. In M. Lewis & J. Haviland-Jones (Eds.), *Handbook of emotions* (2nd Ed., pp. 417-435). New York: Guilford Press.
- Isen, A. M., & Daubman, K. A. (1984). The influence of affect on categorization. *Journal of Personality and Social Psychology*, 47, 1206-1217.
- Joseph Beuys. Retrieved January 7, 2006, from <http://www.hlmd.de/w3.php?nodeId=358>
- Keller, P. A., Lee, Y. A., & Sternthal, B. (2006). *Construing fit to judgment: The effects of regulatory focus and level of construal*. Manuscript submitted for publication.
- Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analysis in social psychology. In D. T. Gilbert & S. T. Fiske (Eds.), *The handbook of social psychology* (4th ed., pp. 233-265). Boston, MA: McGraw-Hill.
- Kettlewell, N., Limpscomb, S., Evans, L., & Rosston, K. (1990). The effect of subjective matter and degree of realism on aesthetic preferences for paintings. *Empirical Studies of the Arts*, 8, 85-93.
- Kleiner, F. S., Mamiya, C. J., & Tansey, R. G. (2001). *Gardner's art through the ages*. Wadsworth Publishing.
- Konecni, V. J. (1984). Elusive effects of artists' "messages". In W. R. Crozier & A. J. Chapman (Eds.), *Cognition processes in the perception of art* (pp. 71-93). Amsterdam: North Holland.
- Kuschel, S., & Förster, J. (2006). Going beyond information given: How approach versus avoidance motivational cues influence encoding of meaning and details. *Manuscript in preparation*, International University Bremen.
- Landau, M., Greenberg, J., Solomon, S., Pyszczynski, T., & Martens, A. (in press). Windows into nothingness: Terror management, meaninglessness, and negative reactions to modern art. *Journal of Personality and Social Psychology*.
- Leder, H. (2002). *Explorationen in der Bildästhetik*. Lengerich: Pabst.
- Leder, H. (2003). Familiar and fluent! Style-related processing hypotheses in aesthetic appreciation. *Empirical studies of the Arts*, 21, 165-175.
- Leder, H., Belke, B., Oeberst, A., & Augustin, D. (2004). A model of aesthetic appreciation and aesthetic judgments. *British Journal of Psychology*, 95, 489-508.
- Lee, A. Y., & Aaker, J. L. (2004). Bringing the frame into focus: the influence of regulatory fit on processing fluency and persuasion. *Journal of Personality and Social Psychology*, 86, 205-219.

- Levy, S. R., Freitas, A. L., & Salovey, P. (2002). Construing action abstractly and blurring social distinctions: Implications for perceiving homogeneity among, but also empathizing with and helping, others. *Journal of Personality and Social Psychology*, 83, 1224-1238.
- Liberman, N., Idson, L. C., Camacho, C. J., & Higgins, E. T. (1999). Promotion and prevention choices between stability and change. *Journal of Personality and Social Psychology*, 77, 1135-1145.
- Liberman, N., Molden, D. C. Idson, L. C., & Higgins, E. T. (2001). Promotion and prevention focus on alternative hypotheses: implications for attributional functions. *Journal of Personality and Social Psychology*, 80, 5-18.
- Liberman, N., Sagristano, M. D., & Trope, Y. (2002). The effect of temporal distance on level of mental construal. *Journal of Experimental Social Psychology*, 38, 523-534.
- Liberman, N., & Trope, Y. (1998). The role of feasibility and desirability considerations in near and distant future decisions: A test of temporal construal theory. *Journal of Personality and Social Psychology*, 75, 5-18.
- Liberman, N., Trope, Y., & Stephan, E. (2005). *Psychological distance*. Paper submitted for publication.
- Limbert, W. M., & Polzella, D. J. (1998). Effects of music on the perception of paintings. *Empirical Studies of the Arts*, 16, 33-39.
- Locher, P., & Nodine, C. (1987). Symmetry catches the eye. In J. K. O'Regan, & A. Levy-Schoen (Eds.), *Eye movements: From physiology to cognition* (pp. 353-361.) Holland: Elsevier.
- Locher, P. J., Smith, J. K., & Smith, L. F. (2001). The influence of presentation format and viewer training in the visual arts on the perception of pictorial and aesthetic qualities of paintings. *Perception*, 30, 449-465.
- Loken, B., & Ward, J. (1990). Alternative approaches to understanding the determinants of typicality. *Journal of Consumer Research*, 17, 111-126.
- Lucas Cranach. Retrieved January 15, 2006, from <http://www.hlmd.de/w3.php?nodeId=430>
- Mäckler, A. (2003). *1460 Antworten auf die Frage: was ist Kunst?* Köln: Dumont.
- Malt, B. C., & Smith, E. E. (1982). The role of familiarity in determining typicality. *Memory and Cognition*, 10, 60-75.
- Martindale, C. (1984). The pleasures of thought: A theory of cognitive hedonics. *The Journal of Mind and Behavior*, 5, 49-80.

Martindale, C. (1988). Aesthetics, psychobiology, and cognition. In F. Farley & R. Neperud (Eds.), *The foundations of aesthetics, art and art education* (pp. 7-43). New York: Praeger.

Martindale, C., & Moore, K. (1988). Priming, prototypicality, and preference. *Journal of Experimental Psychology*, 14, 661-670.

Martindale, C., & Moore, K. (1989). Relationship of musical preference to collative, ecological, and psychophysical variables. *Music Perception*, 6, 431-446.

Martindale, C., Moore, K., & Anderson, K. (2005). The effect of extraneous stimulation on aesthetic preference. *Empirical Studies of the Arts*, 23, 83-91.

Martindale, C., Moore, K., & Borkum, J. (1990). Aesthetic preference: Anomalous findings for Berlyne's psychobiological theory. *American Journal of Psychology*, 103, 53-80.

Martindale, C., Moore, K., & West, A. (1988). Relationship of preference judgments to typicality, novelty, and mere exposure. *Empirical Studies of the Arts*, 6, 79-96.

Massen, M. E. J., & MacLeod, C. M. (1992). Reenacting the route to interpretation: Enhanced perceptual identification without prior perception. *Journal of Experimental Psychology: General*, 121, 145-176.

McClelland, J. R., & Rumelhart, D. E. (1981). An interactive activation model of context effects in letter perception: Part I. An account of basic findings. *Psychological Review*, 88, 375-407.

McCloskey, M. (1980). The stimulus familiarity problem in semantic memory research. *Journal of verbal learning and verbal behavior*, 19, 485-502.

McCrae, R. R., (1994). Openness to experience: Expanding the boundaries of Factor V. *European Journal of Psychology*, 8, 251-272.

McWhinnie, H. J. (1987). Some studies of aesthetic preference. *The British Journal of Aesthetics*, 27, 76-86.

Mervis, C. B., & Rosch, E. (1981). Categorization of natural objects. *Annual Review of Psychology*, 32, 89-115.

Millis, K. (2001). Making meaning brings pleasure: the influence of titles on aesthetic experiences. *Emotion*, 3, 320-329.

Mikulincer, M., Kedem, P., & Paz, D. (1990a). Anxiety and categorization – 1. The structure and boundaries of mental categories. *Personality and Individual Differences*, 11, 805-814.

Mikulincer, M., Kedem, P., & Paz, D. (1990b). Anxiety and categorization – 2. Hierarchical levels of mental categories. *Personality and Individual Differences*, 11, 815-821.

- Mulligan, N. W. (2000). Perceptual interference at encoding enhances item-specific encoding and disrupts relational encoding: Evidence from multiple recall tests. *Memory and Cognition*, 28, 539-546.
- Munsinger, H., & Kessen, W. (1964). Uncertainty, structure, and preference. *Psychological Monographs*, 78 (9, whole No. 586).
- Neumann, R. & Strack, F. (2000). Approach and avoidance: The influence of proprioceptive and exteroceptive encoding of affective information. *Journal of Personality and Social Psychology*, 79, 39-48.
- Nodine, C. F., Locher, P. J., & Krupinski, E. A. (1993). The role of formal art training on perception and aesthetic judgment of art compositions. *Leonardo*, 26, 219-227.
- North, A. C., & Hargreaves, D. J. (2000). Collative variables vs. prototypicality. *Empirical Studies of the Arts*, 8, 13-17.
- Nussbaum, S., Liberman, & Trope, Y. (in press). Predicting the near and distant future. *Journal of Experimental Psychology*.
- O'Hare, D. (1976). Individual differences in perceived similarity and preference for visual art: A multidimensional scaling analysis. *Perception and Psychophysics*, 20, 445-452.
- Panofsky, E. (1955). *Meaning in the Visual Arts*. London: Penguin.
- Pedersen, D. M. (1986). Perception of interior designs. *Perceptual and Motor Skills*, 63, 671-676.
- Pennington, G. I., & Roese, N. J. (2003). Regulatory focus and temporal distance. *Journal of Experimental Social Psychology*, 39, 563-576.
- Priester, J. R., Cacioppo, J. T., & Petty, R. E. (1996). The influence of motor processes on attitudes toward novel versus familiar semantic stimuli. *Personality & Social Psychology Bulletin*, 22, 442-447.
- Purcell, A. T. (1984). The aesthetic experience and mundane reality. In W. R. Croizier & A. J. Chapman (Eds.). *Cognitive processes in the perception of art* (pp. 189-210). Amsterdam: North-Holland.
- Rawlings, D. (2000). The interaction of openness to experience and schizotypy in predicting preference for abstract and violent paintings. *Empirical Studies of the Arts*, 18, 69-91.
- Rawlings, D., & Bastian, B. (2002). Paintings preference and personality, with particular reference to Gray's behavioral inhibition and behavioral approach systems. *Empirical Studies of the Arts*, 20, 177-193.

Reber, A. S. (1989). Implicit learning and tacit knowledge. *Journal of Experimental Psychology: General*, 118, 219-235.

Reber, R., Schwarz, N., & Winkielman, P. (2004). Processing fluency and aesthetic pleasure: is beauty in the perceiver's processing experience? *Personality and Social Psychology Review*, 8, 364-382.

Reber, R., Winkielman, P., & Schwarz, N. (1998). Effects of perceptual fluency on affective judgments. *Psychological Science*, 9, 45-48.

Rosch, E. (1975). Cognitive reference points. *Cognitive psychology*, 7, 532-547.

Rosch, E., & Lloyd, B. B. (Eds.) (1978). *Cognition and categorization*. Oxford, England: Lawrence Earlbaum.

Rosch, E., & Mervis, C. D. (1975). Family resemblances: Studies in the internal structure of categories. *Cognitive Psychology*, 7, 573-605.

Russell, P. A. (2003). Effort after meaning and the hedonic value of paintings. *British Journal of Psychology*, 94, 99-110.

Russell, R. A., & Milne, S. (1997). Meaningfulness and hedonic value of paintings: Effects of titles. *Empirical Studies of the Arts*, 15, 61-73.

Schimmel, K., & Förster, J. (2005). *Der Einfluss regulatorischer Foki auf die Einstellung zu bildender Kunst*. Paper presented at the 10th meeting of the Fachgruppe Sozialpsychologie.

Schimmel, K. & Förster, J. (2006). [The influence of motivational orientations on the mere exposure effect]. Unpublished raw data.

Schooler, J. W., & Melcher, J. (1995). The ineffability of insight. In S.M. Smith, T.B. Ward & R.A. Finke (Eds.), *The creative cognition approach* (pp. 97-134). Cambridge, MA: MIT Press.

Schwanenflügel, P., & Ray, M. (1986). The relationship between category typicality and concept familiarity: evidence from Spanish and English-speaking monolinguals. *Memory and Cognition*, 14, 150-163.

Schwarz, N., & Bless, H. (1991). Happy and mindless, but sad and smart? The impact of affective states on analytic reasoning. In J. Forgas (Ed.), *Emotion and social judgments* (pp. 55-71). Oxford: Pergamon.

Schwarz, N., & Clore, G. L. (1996). Feelings and phenomenal experiences. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social Psychology: Handbook of basic principles* (pp. 433-465). New York: Guilford Press.

Seibt, B., & Förster, J. (2004). Risky and careful processing under stereotype threat: How regulatory focus can enhance and deteriorate performance when self stereotypes are active. *Journal of Personality and Social Psychology*, 87, 38 - 56.

Seibt, B., Nussinson, R., Häfner, M., & Strack, F. (2005). *Broad- or narrow-minded? Bodily feedback of approach and avoidance influences categorization processes*. Paper presented at the 14th general meeting of the European Association of Experimental Social Psychology.

Semin, G. R., Higgins, T., de Montes, L. G., & Valencia, J. F. (2005). Linguistic signatures of regulatory focus: how abstraction fits promotion more than prevention. *Journal of Personality and Social Psychology*, 89, 36 – 45.

Smith, J. D., & Melara, R. J. (1990). Aesthetic preference and syntactic prototypicality in music: 'Tis the gift to be simple. *Cognition*, 34, 279-298.

Smith, P., & Trope, Y. (in press). You focus on the forest when you're in charge of the trees: power priming and abstract information processing. *Journal of Personality and Social Psychology*.

Sobel Test. Retrieved December 12, 2005, from <http://www.unc.edu/~preacher/sobel/sobel.htm>

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological methodology 1982* (pp. 290-312). San Francisco: Jossey-Bass.

Stang, D. J. (1974). Intuition as artifact in mere exposure research. *Journal of Personality and Social Psychology*, 30, 647-653.

Stang, D. J. (1975). Effects of „mere exposure“ on learning and affect. *Journal of Personality and Social Psychology*, 31, 7-12.

Temme, J. E. (1992). Amount and kind of information in museums: Its effect on visitors satisfaction and appreciation of art. *Visual Arts Research*, 18, 74-81.

Tent, L. & Stelzl, I. (1993). *Pädagogisch-psychologische Diagnostik. Band 1: Theoretische und methodischen Grundlagen*. Göttingen: Hogrefe.

Tobacyk, J., Bailey, L., & Myers, H. (1979). Preferences for paintings and personality traits. *Psychological Reports*, 45, 787-793.

Trope, Y., & Liberman, N. (2003). Temporal construal. *Psychological Review*, 110, 403-423.

Tversky, B., & Baratz, D. (1985). Memory for faces: Are caricatures better than photographs? *Memory and Cognition*, 13, 45-49.

- Tyler, C. W. (1999). Is art lawful? *Journal of Consciousness Studies*, 6, 673-674.
- Vallacher, R. R., & Wegner, D. M. (1989). Levels of personal agency: Individual variation in action identification. *Journal of Personality and Social Psychology*, 57, 660-671.
- Ward, T. B. (1995). What's old about new ideas? In M. Smith, T. B. Ward, & R. A. Finke (Eds.). *The creative cognition approach*. (pp. 157-178). Cambridge, MA: MIT Press.
- Whitfield, T. W. A. (1983). Predicting preference for familiar, everyday objects: an experimental confrontation between two theories of aesthetic behavior. *Journal of Experimental Psychology*, 3, 221-237.
- Whitfield, T. W. A. (2000). Beyond prototypicality: toward a categorical-motivation model of aesthetics. *Empirical Studies of the Arts*, 18, 1-11.
- Whitfield, T. W. A., & Slatter, P. E. (1979). The effects of categorization and prototypicality on aesthetic choice in a furniture selection task. *British Journal of Psychology*, 70, 65-75.
- Wilson, G. D., Ausman, J., & Matthews, T. R. (1973). Conservatism and art preferences. *Journal of Personality and Social Psychology*, 25, 286-289.
- Winston, A. S., & Cupchik, G. C. (1992). The evaluation of high art and popular art by naïve and experienced viewers. *Visual Arts Research*, 18, 1-14.
- Zajonc, R. B. (1968). Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology, Monograph Supplement*, 9, 1-27.
- Zhu, R., & Meyers-Levy, J. (2003). The influence of regulatory focus on consumer information processing. *Advances in Consumer Research*, 30, 116-117.
- Zuckerman, M. (1979). *Sensation Seeking: Beyond the Optimal Level of Arousal*. Erlbaum: Hillsdale: NJ.
- Zuckerman, M., Ulrich, R. S., & McLaughlin, J. (1993). Sensation Seeking and reaction to nature paintings. *Personality and Individual Differences*, 15, 563-576.

APPENDIX

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Note. The stimulus material on the following pages was given on an DIN A4 page to the participants. Thus, the content is the same as the one in the studies, only the format differs.

A Pretest 1 and 2 (Artworks)

Cover Sheet Folder

International University Bremen

**Beim Betrachten der Bilder können Sie gerne vor- und zurückblättern,
bevor Sie die jeweiligen Fragen beantworten.**

Presentation Format of the Artworks



Objekt Nr. 1

Note. Each artwork was kept in a clear plastic binder.

Questionnaire (Pretest 1 and 2)

International University Bremen

Part.-No. __

Folder No. __

Folder Name _____

Liebe Teilnehmer und Teilnehmerinnen,

Sie haben einen Ordner erhalten, in dem Sie Bilder von Kunstobjekten finden. Wir möchten Sie bitten, diese Objekte hinsichtlich verschiedener Dimensionen auf einer Skala von 1 bis 7 zu beurteilen.

Beachten Sie, dass es hier kein „Richtig“ oder „Falsch“ gibt. Geben Sie einfach spontan an, wie Sie *persönlich* das jeweilige Objekt sehen.

Sie können sich gerne alle Objekte zunächst anschauen, bevor Sie mit der Beurteilung beginnen.

Vielen Dank!

Bevor Sie beginnen, möchten wir Sie bitten, folgende Frage zu beantworten:

Wie fühlen Sie sich im Moment?

gar nicht gut	1	2	3	4	5	6	7	sehr gut
---------------	---	---	---	---	---	---	---	----------

So, nun kann es losgehen.

Objekt Nr. 1

1. Bitte beurteilen Sie Objekt Nr. 1 bezüglich der jeweiligen Dimension

gar nicht farbig	1	2	3	4	5	6	7	sehr farbig
gar nicht dekorativ	1	2	3	4	5	6	7	sehr dekorativ
sehr einfach	1	2	3	4	5	6	7	sehr komplex
sehr konkret	1	2	3	4	5	6	7	sehr abstrakt
sehr konservativ	1	2	3	4	5	6	7	sehr innovativ
sehr negativ	1	2	3	4	5	6	7	sehr positiv

2. Bitte beurteilen Sie den Künstler von Objekt Nr. 1

gar nicht begabt	1	2	3	4	5	6	7	sehr begabt
------------------	---	---	---	---	---	---	---	-------------

3. Entspricht das Objekt Ihrer Meinung nach dem üblichen Kunstverständnis?

gar nicht	1	2	3	4	5	6	7	sehr
-----------	---	---	---	---	---	---	---	------

4. Wann ist das Objekt Ihrer Meinung nach entstanden?

- ☐ vor dem 15. Jahrhundert
- ☐ 16. Jahrhundert
- ☐ 17. Jahrhundert
- ☐ 18. Jahrhundert
- ☐ 19. Jahrhundert
- ☐ 1. Hälfte 20. Jahrhundert
- ☐ 2. Hälfte 20. Jahrhundert
- ☐ nach dem 20. Jahrhundert

5. Worum handelt es sich bei dem Objekt (bitte nur eine Kategorie angeben)?

- ☐ Foto ☐ Gemälde ☐ Installation ☐ Skulptur

6. Kennen Sie das Objekt?

- ☐ ja
- ☐ ja, das Objekt ist von _____
- ☐ nein

Zum Abschluss möchten wir Ihnen noch einige Fragen stellen. Bitte beantworten Sie diese Fragen erst, wenn Sie mit der Beurteilung der Bilder fertig sind.

Vielen Dank!

7. Wie fühlen Sie sich im Moment?

gar nicht gut	1	2	3	4	5	6	7	sehr gut
---------------	---	---	---	---	---	---	---	----------

8. Wie sehr interessieren Sie sich für Kunst?

gar nicht interessiert	1	2	3	4	5	6	7	sehr interessiert
------------------------	---	---	---	---	---	---	---	-------------------

9. Wie häufig haben Sie im letzten halben Jahr eine Kunstausstellung besucht?

- ☐ gar nicht
☐ 1 Mal
☐ 1 bis 3 Mal
☐ mehr als 3 Mal, nämlich ____ Mal

10. Gibt es einen Künstler, dessen Werke Sie ganz phantastisch finden?

- ☐ ja, nämlich _____
☐ nein

11. Weitere Lieblingskünstler?

- ☐ ja, nämlich _____
☐ nein

12. Gibt es eine Kunstrichtung/-epoche, die Sie besonders schätzen?

- ☐ ja, nämlich _____
☐ nein

13. Was studieren Sie / machen Sie beruflich?

Artworks Pretest 1



Alberto Giacometti

Nose, 1947

Guggenheim Museum, New York



Jackson Pollock

Reflection of the Big Dipper, 1947

Stedelijk Museum, Amsterdam



Antonio Pollaiuolo

Portrait of a Woman, 1470

Museo Poldi Pezzoli, Milan



Joseph Beuys

The Rack, 1969

Staatliche Museen, Kassel



Matthew Barney

Cremaster 5, 1997

Guggenheim Museum, New York



Theo van Doesburg

Kontra-Komposition V, 1924

Private Collection



Antonio Canaletto

Water Music, 1754

National Gallery of Art, London



Robert Gober

Wedding Gown, 1989

Private Collection



Marcel Duchamp

Fountain, 1917

Philadelphia Museum of Art



Antoine Coyppel

Young Girl with Dog, 1710

Musée National du Louvre, Paris



Erich Heckel

Countryside, 1907

Private Collection



Richard Long

South Bank Cycle, 1991

Tate Gallery, London

Note. Artworks are presented in the same sequence as in the pretest (sequence 1).

Artworks Pretest 2



Mark Rothko
Blue and Grey, 1962
Fondation Beyeler, Basel



Camille Claudel
La Valse, 1892
Musée Rodin, Paris



Andy Warhol
Brillo Boxes, 1969
Norton Simon Museum, Pasadena



Jan Vermeer
The Milkmaid, 1658
Rijksmuseum, Amsterdam



Pablo Picasso
The Bull, 1946
Norton Simon Museum, Pasadena



Hans Arp
Torso Garbe, 1958
Kunstsammlung LRP Landesbank
Rheinland-Pfalz



Mark Rothko
Orange and Yellow, 1956
Collection Albright-Knox Art Gallery,
Buffalo



Meret Oppenheim
Luncheon in Fur, 1936
Museum of Modern Art, New York



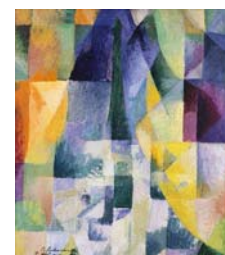
Gian Lorenzo Bernini
Daphne and Apollo, 1622
Villa Borghese, Roma



Yves Klein
Anthropometry, 1960
Museum of Modern Art, New York



Hans Thoma
Spring, 1881
Private Collection



Robert Delaunay
Windows, 1912
Solomon Guggenheim, New York

Note. Artworks are presented in the same sequence as in the pretest (sequence 1).

Descriptive Statistics of all Artworks (Pretest 1 and 2)

Table A1

Mean Colorfulness Ratings, Standard Deviations and Sample Sizes (Pretests 1 and 2)

Artwork	Mean	SD	N
Pretest 1			
Alberto Giacometti (<i>The Nose</i>)	1.51	.64	41
Jackson Pollock (<i>Reflection of the Big Dipper</i>)	5.93	1.08	41
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	4.51	1.14	41
Joseph Beuys (<i>The Pack</i>)	1.37	.70	41
Matthew Barney (<i>Cremaster 5</i>)	5.18	1.35	41
Theo van Doesburg (<i>Kontra-Komposition V</i>)	5.51	1.05	41
Antonio Canaletto (<i>Water Music</i>)	5.12	1.25	41
Robert Gober (<i>Wedding Gown</i>)	3.27	1.18	41
Marcel Duchamp (<i>Fountain</i>)	1.24	.43	41
Antoine Coypel (<i>Young Girl with a Dog</i>)	5.07	1.21	41
Erich Heckel (<i>Countryside</i>)	6.51	.71	41
Richard Long (<i>South Bank Cycle</i>)	2.12	.78	41
Pretest 2			
Mark Rothko (<i>Blue and Grey</i>)	4.12	1.29	33
Camille Claudel (<i>La Valse</i>)	2.15	1.25	33
Andy Warhol (<i>Brillo Boxes</i>)	4.33	1.45	33
Jan Vermeer (<i>Milkmaid</i>)	5.15	.97	33
Pablo Picasso (<i>The Bull</i>)	1.39	.66	33
Hans Arp (<i>Torso Garbe</i>)	1.27	.45	33
Mark Rothko (<i>Orange and Yellow</i>)	5.73	1.01	33
Meret Oppenheim (<i>Luncheon in Fur</i>)	2.85	1.15	33
Gian Lorenzo Bernini (<i>Daphne and Apollo</i>)	1.36	.49	33
Yves Klein (<i>Anthropometry</i>)	4.52	1.72	33
Hans Thoma (<i>Spring</i>)	4.70	1.38	33
Robert Delaunay (<i>Windows</i>)	6.21	.78	33

Note. Artworks are presented in the same sequence as in the pretests (sequence 1). The higher the mean, the higher the colorfulness of the artwork.

Table A2

Mean Decorativeness Ratings, Standard Deviations and Sample Sizes (Pretests 1 and 2)

Artwork	Mean	SD	N
Pretest 1			
Alberto Giacometti (<i>The Nose</i>)	2.80	1.86	40
Jackson Pollock (<i>Reflection of the Big Dipper</i>)	4.51	1.72	41
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	4.20	1.68	41
Joseph Beuys (<i>The Pack</i>)	2.83	1.63	41
Matthew Barney (<i>Cremaster 5</i>)	3.63	1.87	41
Theo van Doesburg (<i>Kontra-Komposition V</i>)	3.71	1.82	41
Antonio Canaletto (<i>Water Music</i>)	5.00	1.32	41
Robert Gober (<i>Wedding Gown</i>)	3.56	1.69	41
Marcel Duchamp (<i>Fountain</i>)	1.88	1.33	41
Antoine Coypel (<i>Young Girl with a Dog</i>)	4.68	1.51	40
Erich Heckel (<i>Countryside</i>)	4.37	1.53	41
Richard Long (<i>South Bank Cycle</i>)	3.95	1.84	41
Pretest 2			
Mark Rothko (<i>Blue and Grey</i>)	3.88	1.83	33
Camille Claudel (<i>La Valse</i>)	3.91	1.61	32
Andy Warhol (<i>Brillo Boxes</i>)	3.91	2.08	33
Jan Vermeer (<i>Milkmaid</i>)	3.88	1.41	33
Pablo Picasso (<i>The Bull</i>)	4.12	1.88	33
Hans Arp (<i>Torso Garbe</i>)	4.97	1.74	33
Mark Rothko (<i>Orange and Yellow</i>)	4.79	1.62	33
Meret Oppenheim (<i>Luncheon in Fur</i>)	3.45	1.79	33
Gian Lorenzo Bernini (<i>Daphne and Apollo</i>)	4.52	1.87	33
Yves Klein (<i>Anthropometry</i>)	4.91	1.59	33
Hans Thoma (<i>Spring</i>)	3.85	1.73	33
Robert Delaunay (<i>Windows</i>)	4.45	1.64	33

Note. Artworks are presented in the same sequence as in the pretests (sequence 1). The higher the mean, the higher the decorativeness of the artwork.

Table A3

Mean Complexity Ratings, Standard Deviations and Sample Sizes (Pretests 1 and 2)

Artwork	Mean	SD	N
Pretest 1			
Alberto Giacometti (<i>The Nose</i>)	3.27	1.43	41
Jackson Pollock (<i>Reflection of the Big Dipper</i>)	4.71	1.65	41
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	4.24	1.24	41
Joseph Beuys (<i>The Pack</i>)	3.98	1.41	41
Matthew Barney (<i>Cremaster 5</i>)	5.56	1.16	41
Theo van Doesburg (<i>Kontra-Komposition V</i>)	1.80	.93	41
Antonio Canaletto (<i>Water Music</i>)	6.02	.85	41
Robert Gober (<i>Wedding Gown</i>)	3.63	1.41	41
Marcel Duchamp (<i>Fountain</i>)	2.10	1.16	41
Antoine Coypel (<i>Young Girl with a Dog</i>)	5.27	1.26	40
Erich Heckel (<i>Countryside</i>)	4.39	1.22	41
Richard Long (<i>South Bank Cycle</i>)	4.00	1.55	41
Pretest 2			
Mark Rothko (<i>Blue and Grey</i>)	3.03	1.47	33
Camille Claudel (<i>La Valse</i>)	4.76	1.30	33
Andy Warhol (<i>Brillo Boxes</i>)	2.88	1.43	33
Jan Vermeer (<i>Milkmaid</i>)	4.61	1.50	33
Pablo Picasso (<i>The Bull</i>)	3.00	1.50	33
Hans Arp (<i>Torso Garbe</i>)	3.73	1.55	33
Mark Rothko (<i>Orange and Yellow</i>)	3.03	1.49	33
Meret Oppenheim (<i>Luncheon in Fur</i>)	3.69	1.67	32
Gian Lorenzo Bernini (<i>Daphne and Apollo</i>)	5.36	1.37	33
Yves Klein (<i>Anthropometry</i>)	3.94	1.32	33
Hans Thoma (<i>Spring</i>)	4.15	1.48	33
Robert Delaunay (<i>Windows</i>)	4.70	1.45	33

Note. Artworks are presented in the same sequence as in the pretests (sequence 1). The higher the mean, the higher the complexity of the artwork.

Table A4

Mean Abstractness Ratings, Standard Deviations and Sample Sizes (Pretests 1 and 2)

Artwork	Mean	SD	N
Pretest 1			
Alberto Giacometti (<i>The Nose</i>)	5.05	1.87	41
Jackson Pollock (<i>Reflection of the Big Dipper</i>)	6.29	1.15	41
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	1.73	.87	41
Joseph Beuys (<i>The Pack</i>)	4.66	1.89	41
Matthew Barney (<i>Cremaster 5</i>)	4.49	1.80	41
Theo van Doesburg (<i>Kontra-Komposition V</i>)	4.39	2.23	41
Antonio Canaletto (<i>Water Music</i>)	2.05	1.18	41
Robert Gober (<i>Wedding Gown</i>)	4.46	1.99	41
Marcel Duchamp (<i>Fountain</i>)	2.85	1.93	41
Antoine Coypel (<i>Young Girl with a Dog</i>)	2.59	1.34	41
Erich Heckel (<i>Countryside</i>)	5.00	1.24	41
Richard Long (<i>South Bank Cycle</i>)	4.83	1.73	41
Pretest 2			
Mark Rothko (<i>Blue and Grey</i>)	5.06	1.71	33
Camille Claudel (<i>La Valse</i>)	3.24	1.50	33
Andy Warhol (<i>Brillo Boxes</i>)	3.48	2.09	33
Jan Vermeer (<i>Milkmaid</i>)	2.21	1.47	33
Pablo Picasso (<i>The Bull</i>)	4.58	1.52	33
Hans Arp (<i>Torso Garbe</i>)	4.52	1.79	33
Mark Rothko (<i>Orange and Yellow</i>)	5.38	1.70	32
Meret Oppenheim (<i>Luncheon in Fur</i>)	3.61	1.66	33
Gian Lorenzo Bernini (<i>Daphne and Apollo</i>)	2.18	1.42	33
Yves Klein (<i>Anthropometry</i>)	5.91	1.33	33
Hans Thoma (<i>Spring</i>)	1.97	1.33	32
Robert Delaunay (<i>Windows</i>)	6.03	1.05	33

Note. Artworks are presented in the same sequence as in the pretests (sequence 1). The higher the mean, the higher the abstractness of the artwork.

Table A5

Mean Innovativeness Ratings, Standard Deviations and Sample Sizes (Pretests 1 and 2)

Artwork	Mean	SD	N
Pretest 1			
Alberto Giacometti (<i>The Nose</i>)	5.00	1.22	41
Jackson Pollock (<i>Reflection of the Big Dipper</i>)	5.05	1.14	41
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	1.80	.75	41
Joseph Beuys (<i>The Pack</i>)	5.27	1.18	41
Matthew Barney (<i>Cremaster 5</i>)	4.88	1.55	41
Theo van Doesburg (<i>Kontra-Komposition V</i>)	4.37	1.32	41
Antonio Canaletto (<i>Water Music</i>)	2.29	1.03	41
Robert Gober (<i>Wedding Gown</i>)	4.46	1.45	41
Marcel Duchamp (<i>Fountain</i>)	4.85	1.37	41
Antoine Coypel (<i>Young Girl with a Dog</i>)	3.12	1.42	41
Erich Heckel (<i>Countryside</i>)	4.63	1.37	41
Richard Long (<i>South Bank Cycle</i>)	4.71	1.23	41
Pretest 2			
Mark Rothko (<i>Blue and Grey</i>)	4.61	1.46	33
Camille Claudel (<i>La Valse</i>)	2.97	1.45	33
Andy Warhol (<i>Brillo Boxes</i>)	5.21	1.27	33
Jan Vermeer (<i>Milkmaid</i>)	1.94	1.06	33
Pablo Picasso (<i>The Bull</i>)	5.06	1.30	33
Hans Arp (<i>Torso Garbe</i>)	4.67	1.43	33
Mark Rothko (<i>Orange and Yellow</i>)	5.03	1.33	33
Meret Oppenheim (<i>Luncheon in Fur</i>)	4.88	1.47	33
Gian Lorenzo Bernini (<i>Daphne and Apollo</i>)	2.15	1.06	33
Yves Klein (<i>Anthropometry</i>)	5.12	1.27	33
Hans Thoma (<i>Spring</i>)	1.82	.68	33
Robert Delaunay (<i>Windows</i>)	4.79	1.19	33

Note. Artworks are presented in the same sequence as in the pretests (sequence 1). The higher the mean, the higher the innovativeness of the artwork.

Table A6

Mean Positivity Ratings, Standard Deviations and Sample Sizes (Pretests 1 and 2)

Artwork	Mean	SD	N
Pretest 1			
Alberto Giacometti (<i>The Nose</i>)	2.90	1.62	41
Jackson Pollock (<i>Reflection of the Big Dipper</i>)	4.51	1.34	41
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	4.34	1.24	41
Joseph Beuys (<i>The Pack</i>)	3.90	1.32	41
Matthew Barney (<i>Cremaster 5</i>)	3.88	1.42	41
Theo van Doesburg (<i>Kontra-Komposition V</i>)	4.10	1.16	41
Antonio Canaletto (<i>Water Music</i>)	4.83	1.16	41
Robert Gober (<i>Wedding Gown</i>)	3.88	1.44	41
Marcel Duchamp (<i>Fountain</i>)	2.95	1.26	41
Antoine Coypel (<i>Young Girl with a Dog</i>)	4.76	1.18	41
Erich Heckel (<i>Countryside</i>)	4.56	1.53	41
Richard Long (<i>South Bank Cycle</i>)	4.37	1.18	41
Pretest 2			
Mark Rothko (<i>Blue and Grey</i>)	4.24	1.52	33
Camille Claudel (<i>La Valse</i>)	4.30	1.61	33
Andy Warhol (<i>Brillo Boxes</i>)	4.03	1.36	33
Jan Vermeer (<i>Milkmaid</i>)	4.21	1.39	33
Pablo Picasso (<i>The Bull</i>)	4.27	1.38	33
Hans Arp (<i>Torso Garbe</i>)	4.76	1.30	33
Mark Rothko (<i>Orange and Yellow</i>)	5.39	1.43	33
Meret Oppenheim (<i>Luncheon in Fur</i>)	3.67	1.59	33
Gian Lorenzo Bernini (<i>Daphne and Apollo</i>)	4.24	1.32	33
Yves Klein (<i>Anthropometry</i>)	4.73	1.42	33
Hans Thoma (<i>Spring</i>)	4.03	1.69	33
Robert Delaunay (<i>Windows</i>)	5.15	1.25	33

Note. Artworks are presented in the same sequence as in the pretests (sequence 1). The higher the mean, the higher the positivity of the artwork.

Table A7

Means Skills of Artist, Standard Deviations and Sample Sizes (Pretests 1 and 2)

Artwork	Mean	SD	N
Pretest 1			
Alberto Giacometti (<i>The Nose</i>)	4.05	1.50	41
Jackson Pollock (<i>Reflection of the Big Dipper</i>)	3.95	1.43	41
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	5.68	.93	41
Joseph Beuys (<i>The Pack</i>)	4.32	1.49	41
Matthew Barney (<i>Cremaster 5</i>)	5.17	1.36	41
Theo van Doesburg (<i>Kontra-Komposition V</i>)	3.34	1.41	41
Antonio Canaletto (<i>Water Music</i>)	6.10	.77	41
Robert Gober (<i>Wedding Gown</i>)	4.34	1.33	41
Marcel Duchamp (<i>Fountain</i>)	2.95	1.45	41
Antoine Coypel (<i>Young Girl with a Dog</i>)	5.80	.90	41
Erich Heckel (<i>Countryside</i>)	4.54	1.38	41
Richard Long (<i>South Bank Cycle</i>)	4.44	1.36	41
Pretest 2			
Mark Rothko (<i>Blue and Grey</i>)	4.21	1.54	33
Camille Claudel (<i>La Valse</i>)	5.42	1.06	33
Andy Warhol (<i>Brillo Boxes</i>)	3.61	1.75	33
Jan Vermeer (<i>Milkmaid</i>)	5.82	.92	33
Pablo Picasso (<i>The Bull</i>)	4.85	1.44	33
Hans Arp (<i>Torso Garbe</i>)	5.09	1.31	33
Mark Rothko (<i>Orange and Yellow</i>)	4.33	1.49	33
Meret Oppenheim (<i>Luncheon in Fur</i>)	4.61	1.73	33
Gian Lorenzo Bernini (<i>Daphne and Apollo</i>)	5.76	1.25	33
Yves Klein (<i>Anthropometry</i>)	4.39	1.46	33
Hans Thoma (<i>Spring</i>)	5.06	1.30	33
Robert Delaunay (<i>Windows</i>)	5.21	1.19	33

Note. Artworks are presented in the same sequence as in the pretests (sequence 1). The higher the mean, the higher the skills of the artist.

Table A8

Mean Conventionality Ratings, Standard Deviations and Sample Sizes (Pretests 1, 2, and 3)

Artwork	Mean	SD	N
Pretest 1			
Alberto Giacometti (<i>The Nose</i>)	4.63	1.46	40
Jackson Pollock (<i>Reflection of the Big Dipper</i>)	4.73	1.40	41
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	5.54	1.34	41
Joseph Beuys (<i>The Pack</i>)	3.80	1.42	41
Matthew Matthew Barney (<i>Cremaster 5</i>)	4.34	1.44	41
Theo van Doesburg (<i>Kontra-Komposition V</i>)	4.37	1.44	41
Antonio Canaletto (<i>Water Music</i>)	5.80	1.08	41
Robert Gober (<i>Wedding Gown</i>)	4.05	1.56	41
Marcel Duchamp (<i>Fountain</i>)	2.98	1.75	41
Antoine Coypel (<i>Young Girl with a Dog</i>)	5.35	1.55	40
Erich Heckel (<i>Countryside</i>)	5.02	1.44	41
Richard Long (<i>South Bank Cycle</i>)	4.20	1.38	40
Pretest 2			
Mark Rothko (<i>Blue and Grey</i>)	4.18	1.67	33
Camille Claudel (<i>La Valse</i>)	5.06	1.43	33
Andy Warhol (<i>Brillo Boxes</i>)	3.36	1.78	33
Jan Vermeer (<i>Milkmaid</i>)	5.61	1.17	33
Pablo Picasso (<i>The Bull</i>)	4.67	1.55	33
Hans Arp (<i>Torso Garbe</i>)	5.53	.98	32
Mark Rothko (<i>Orange and Yellow</i>)	4.52	1.25	33
Meret Oppenheim (<i>Luncheon in Fur</i>)	3.73	1.59	33
Gian Lorenzo Bernini (<i>Daphne and Apollo</i>)	5.67	1.08	33
Yves Klein (<i>Anthropometry</i>)	4.79	1.45	33
Hans Thoma (<i>Spring</i>)	4.42	1.48	33
Robert Delaunay (<i>Windows</i>)	5.12	.99	33
Pretest 3			
Agnes Martin (<i>Untitled No. 7</i>)	2.36	1.60	14
Andrea del Verrocchio (<i>Lady with Flowers</i>)	5.58	1.18	14

Note. Artworks are presented in the same sequence as in the pretests (sequence 1). The higher the mean, the higher the conventionality of the artwork. Pretest 3 was conducted to determine the conventionality level of nine different artworks. Only those artworks that were used in the main studies are included in the table above. For prints of *Untitled No. 7* and *Lady with Flowers* see Appendix F 81.

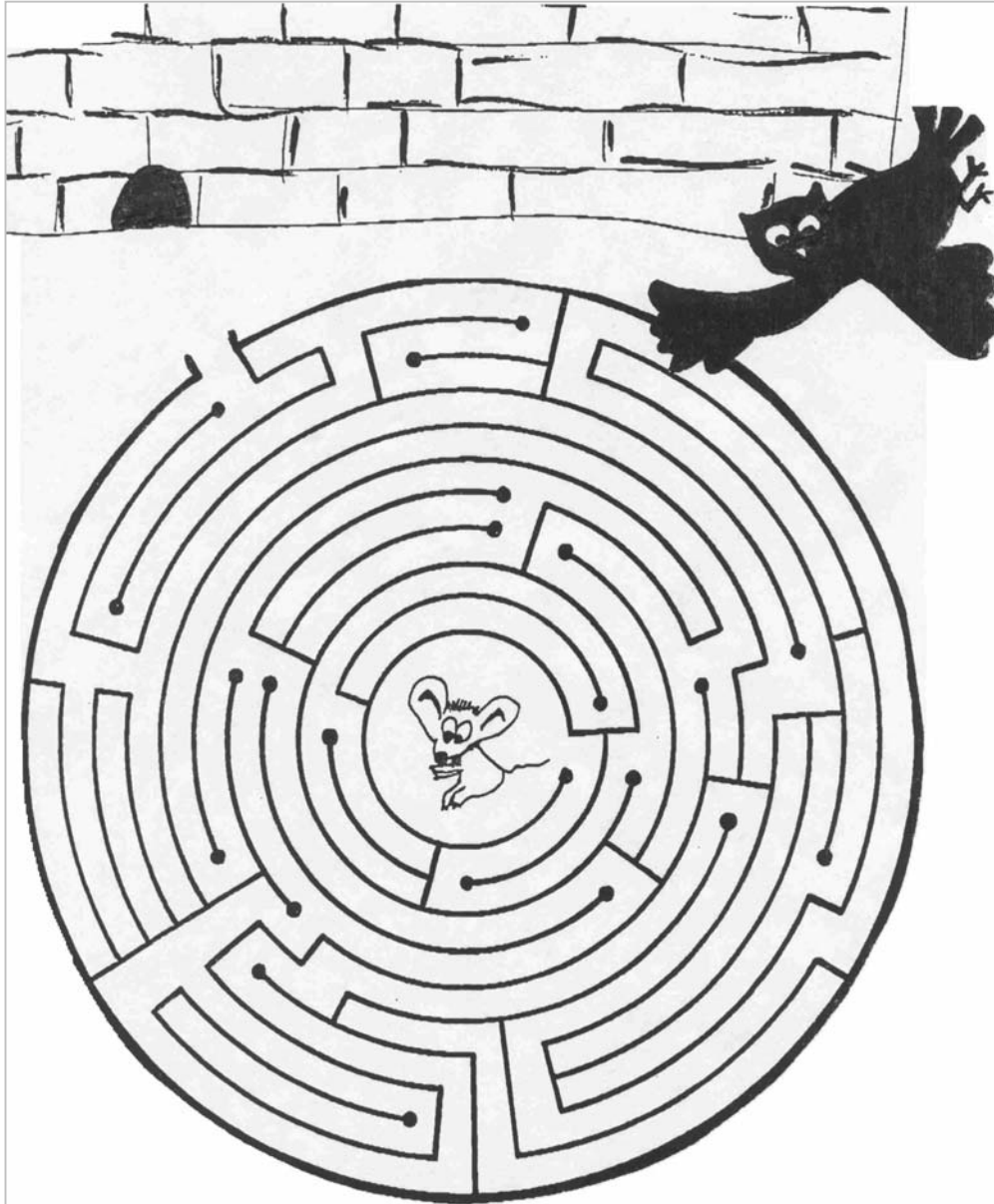
B Study 1

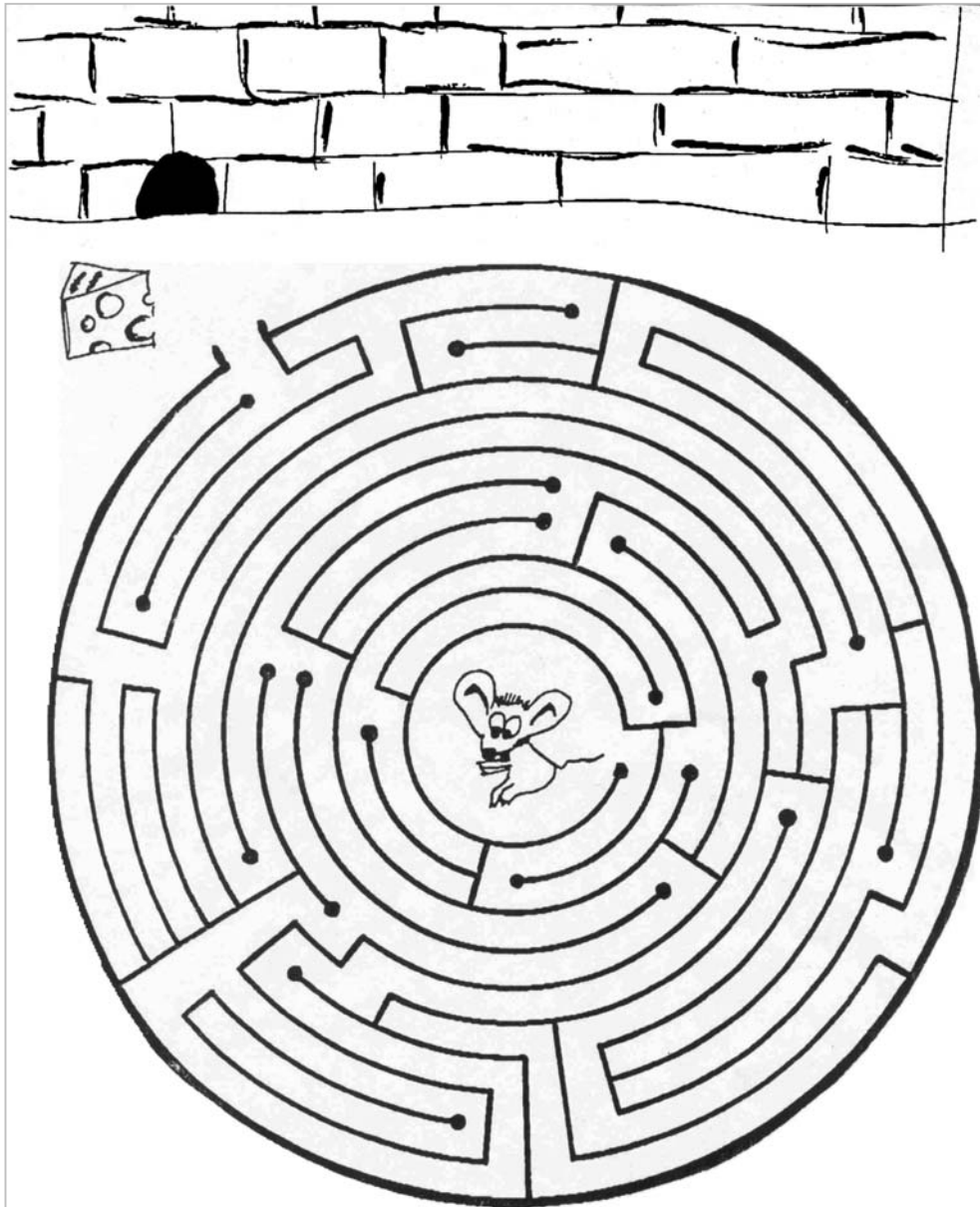
Instruction (Prevention and Promotion Maze)

INTERNATIONAL UNIVERSITY BREMEN

In der folgenden Aufgabe sollen Sie ein Labyrinth lösen, wie Sie es sicher ähnlich schon kennen. Blättern Sie erst um, wenn es Ihnen die Versuchsleitung sagt. Sie haben für die folgende Aufgabe **1 Minute** Zeit! Finden Sie im Labyrinth den Weg für die Maus und fangen Sie bei der Maus selbst mit dem Zeichnen an.

Geben Sie der Versuchsleitung ein Handzeichen!

Maze (Prevention Focus)

Maze (Promotion Focus)

Cover Sheet Folder

International University Bremen

**Beim Betrachten der Bilder können Sie gerne vor- und zurückblättern,
bevor Sie sich entscheiden, wie typisch für Sie persönlich das jeweilige
Objekt für die Kategorie *Kunst* ist.**

Presentation Format of the Artworks



Objekt Nr. 1

Note. Each artwork was kept in a clear plastic binder.

Questionnaire Study 1 (Prevention and Promotion Focus)

International University Bremen

Part.-No. ____
Folder-Name ____
Folder-No. ____

Liebe Teilnehmer und Teilnehmerinnen,

Sie haben einen Ordner erhalten, in dem Sie Bilder von verschiedenen Objekten finden. Sie sollen nun angeben, wie typisch für Sie persönlich diese Objekte für die Kategorie „Kunst“ sind.

Objekt Nr. 1

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 2

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 3

sehr untypisch						Sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 4

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 5

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 6

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

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1

Objekt Nr. 7

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 8

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 9

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 10

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 11

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 12

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Zum Abschluss möchten wir Ihnen noch einige Fragen stellen. Bitte beantworten Sie diese erst, wenn Sie mit den Fragen zu den Bildern fertig sind.

1. Wie fühlen Sie sich im Moment?

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

2. Kennen Sie Objekte aus dem Ordner?

Bild Nr. 1: ☐ nein
☐ ja
☐ ja, das Objekt ist von _____

Bild Nr. 2: ☐ nein
☐ ja
☐ ja, das Objekt ist von _____

Bild Nr. 3: ☐ nein
☐ ja
☐ ja, das Objekt ist von _____

Bild Nr. 4: ☐ nein
☐ ja
☐ ja, das Objekt ist von _____

Bild Nr. 5: ☐ nein
☐ ja
☐ ja, das Objekt ist von _____

Bild Nr. 6: ☐ nein
☐ ja
☐ ja, das Objekt ist von _____

Bild Nr. 7: ☐ nein
☐ ja
☐ ja, das Objekt ist von _____

Bild Nr. 8: ☐ nein
☐ ja
☐ ja, das Objekt ist von _____

Bild Nr. 9: ☐ nein
☐ ja
☐ ja, das Objekt ist von _____

Bild Nr. 10: ☐ nein
☐ ja
☐ ja, das Objekt ist von _____

Bild Nr. 11: ☐ nein
☐ ja
☐ ja, das Objekt ist von _____

Bild Nr. 12: ☐ nein
☐ ja
☐ ja, das Objekt ist von _____

3. Wie sehr interessieren Sie sich für Kunst?

gar nicht						sehr
1	2	3	4	5	6	7

4. Wie häufig haben Sie im letzten halben Jahr eine Kunstaussstellung besucht?

- ☐ gar nicht
☐ 1 Mal
☐ 1 bis 3 Mal
☐ mehr als 3 Mal, nämlich ____ Mal

5. Gibt es einen Künstler, dessen Werke Sie ganz phantastisch finden?

- ☐ nein
☐ ja, nämlich _____

6. Weitere Lieblingskünstler?

- ☐ nein
☐ ja, nämlich _____

7. Gibt es eine Kunstrichtung/-epoche, die Sie besonders schätzen?

- ☐ nein
☐ ja, nämlich _____

8. Was studieren Sie / machen Sie beruflich?

9. Können Sie noch einmal kurz in Ihren Worten darstellen, was mit dieser Studie untersucht wurde?

Artworks Study 1



Alberto Giacometti
Nose, 1947
Guggenheim Museum, New York



Jackson Pollock
Reflection of the Big Dipper, 1947
Stedelijk Museum, Amsterdam



Marcel Duchamp
Fountain, 1917
Philadelphia Museum of Art



Richard Long
South Bank Cycle, 1991
Tate Gallery, London



Matthew Barney
Cremaster 5, 1997
Guggenheim Museum, New York



Theo van Doesburg
Kontra-Komposition V, 1924
Private Collection



Antonio Canaletto
Water Music, 1754
National Gallery of Art, London



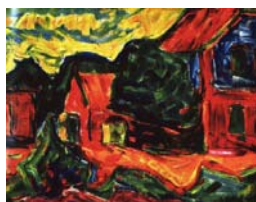
Robert Gober
Wedding Gown, 1989
Private Collection



Antonio Pollaiuolo
Portrait of a Woman, 1470
Museo Poldi Pezzoli, Milan



Antoine Coypel
Young Girl with Dog, 1710
Musée National du Louvre, Paris



Erich Heckel
Countryside, 1907
Private Collection



Joseph Beuys
The Rack, 1969
Staatliche Museen, Kassel

Note. Artworks are presented in the same sequence as in Study 1 (sequence 1).

Descriptive Statistics of all Artworks

Table B1

Mean Typicality Ratings and Standard Deviations for every Artwork as a Function of Regulatory Focus (Study 1, N=27)

Artwork	Regulatory Focus			
	Prevention		Promotion	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Alberto Giacometti (<i>The Nose</i>)	5.17	1.53	5.40	1.35
Jackson Pollock (<i>Reflection of the Big Dipper</i>)	5.67	1.30	5.33	1.80
Marcel Duchamp (<i>The Fountain</i>)	2.25	1.14	3.53	2.03
Richard Long (<i>South Bank Cycle</i>)	4.67	1.50	4.60	2.03
Matthew Barney (<i>Cremaster 5</i>)	3.75	1.82	4.87	1.92
Theo van Doesburg (<i>Kontra-Komposition V</i>)	5.42	1.73	5.07	1.67
Antonio Canaletto (<i>Water Music</i>)	6.33	1.15	5.40	1.88
Robert Gober (<i>Wedding Gown</i>)	4.83	1.40	4.60	1.80
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	6.67	.65	5.67	1.35
Antoine Coypel (<i>Young Girl with Dog</i>)	6.50	.67	5.07	1.75
Erich Heckel (<i>Countryside</i>)	6.50	.80	6.60	.51
Joseph Beuys (<i>The Pack</i>)	3.17	2.04	4.60	2.03

Note. Artworks are presented in the same sequence as in Study 1 (sequence 1).

C Study 2

Cover Story (Prevention and Promotion Focus)

Vpn-Nr. _____
Portfolio Nr. _____

International University Bremen Projekt von Prof. Dr. R. Lò

Liebe Versuchsteilnehmer,

wir möchten Sie bitten, dass Sie sich in folgende Situation hinein versetzen: Ihre Eltern haben für Sie einen Fond mit sehr viel Geld nur für Kunstobjekte angelegt. Mit diesem Geld haben Sie genug Spielraum, um sich immer wieder ausgewählte Werke kaufen zu können. Heute bekommen Sie von einem Auktionshaus zwei Objekte angeboten und Sie wollen sich nun für eines entscheiden.

Bitte schauen Sie sich zunächst beide Gemälde genau an. Blättern Sie erst um, nachdem Sie die Bilder auf sich wirken haben lassen.

Portfolio 1 (Conventional Art)

Auktionshaus *Van de Laar*

Portfolio 1

Auktionshaus van de Laar – Portfolio T1

Note. This cover sheet and the artworks were kept in an exclusive looking black folder.

***Water Music* by Antonio Canaletto**



Objekt Nr. 1

Auktionshaus van de Laar – Portfolio M2

The Milkmaid by Jan Vermeer



Objekt Nr. 2

Auktionshaus van de Laar – Portfolio M2

Portfolio 2 (Unconventional Art)

Auktionshaus *Van de Laar*

Portfolio 2

Auktionshaus van de Laar – Portfolio M2

Note. This cover sheet and the artworks were kept in an exclusive looking black folder.

Orange and Yellow by Mark Rothko



Objekt Nr. 1

Auktionshaus van de Laar – Portfolio 11

***Kontra-Komposition V* by Theo van Doesburg**



Objekt Nr. 2

Auktionshaus van de Laar – Portfolio '11

Manipulation Prevention Focus

Bevor Sie sich letztendlich entscheiden, bitten wir Sie zu bedenken, was Sie **verlieren** würden, wenn Sie eines der beiden Gemälde abwählen. Schauen Sie sich die Gemälde noch einmal an und schreiben Sie bitte kurz nieder, was Sie verlieren würden, wenn Sie das eine oder das andere Objekt abwählen.

Kunstwerk Nr. 1

Was ich verlieren würde, wenn ich Gemälde Nr. 1 abwählen würde

Kunstwerk Nr. 2

Was ich verlieren würde, wenn ich Gemälde Nr. 2 abwählen würde

Bitte teilen Sie uns jetzt mit, für welches Werk Sie sich entschieden haben:

- ☐ Kunstwerk 1
☐ Kunstwerk 2

Manipulation Promotion Focus

Bevor Sie sich letztendlich entscheiden, bitten wir Sie zu bedenken, was Sie **gewinnen** würden, wenn Sie eines der beiden Gemälde wählen. Schauen Sie sich die Gemälde noch einmal an und schreiben Sie bitte kurz nieder, was Sie gewinnen würden, wenn Sie das eine oder das andere Objekt wählen.

Kunstwerk Nr. 1

Was ich gewinnen würde, wenn ich Gemälde Nr. 1 wählen würde

Kunstwerk Nr. 2

Was ich gewinnen würde, wenn ich Gemälde Nr. 2 wählen würde

Bitte teilen Sie uns jetzt mit, für welches Werk Sie sich entschieden haben:

- ☐ Kunstwerk 1
☐ Kunstwerk 2

Focus-Specific Emotions Questionnaire (Prevention and Promotion Focus)

Im Folgenden finden Sie nun eine Reihe von Fragen zu Ihrem aktuellen Befinden. Bitte beantworten Sie die folgenden Fragen zu Ihrer **derzeitigen** Stimmung.

	sehr schlecht						sehr gut
	1	2	3	4	5	6	7
Wie fühlen Sie sich jetzt?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	nicht besorgt						sehr besorgt
	1	2	3	4	5	6	7
Wie besorgt sind Sie im Moment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	nicht glücklich						sehr glücklich
	1	2	3	4	5	6	7
Wie glücklich sind Sie gerade?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	nicht ruhig						sehr ruhig
	1	2	3	4	5	6	7
Wie ruhig fühlen Sie sich?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	nicht nervös						sehr nervös
	1	2	3	4	5	6	7
Wie nervös sind Sie gerade?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	nicht down						sehr down
	1	2	3	4	5	6	7
Wie down sind Sie im Moment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	nicht enttäuscht						sehr enttäuscht
	1	2	3	4	5	6	7
Wie enttäuscht sind Sie gerade?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	nicht freudig						sehr freudig
	1	2	3	4	5	6	7
Wie freudig sind Sie im Moment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	nicht entspannt						sehr entspannt
	1	2	3	4	5	6	7
Wie entspannt sind Sie gerade?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	nicht deprimiert						sehr deprimiert
	1	2	3	4	5	6	7
Wie deprimiert sind Sie gerade?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	nicht angespannt						sehr angespannt
	1	2	3	4	5	6	7
Wie angespannt sind Sie gerade?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	nicht erleichtert						sehr erleichtert
	1	2	3	4	5	6	7
Wie erleichtert sind Sie gerade?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Questionnaire Study 2 (Prevention and Promotion Focus)

Wir möchten Ihnen jetzt ein paar Fragen zu den Kunstwerken stellen:

1. Wie schwierig war die Entscheidung zwischen den beiden Gemälden?

Gar nicht schwierig	.....	.....	.....	.....	.....	sehr schwierig
1	2	3	4	5	6	7

2. Wie viel Geld würden Sie aus Ihrem Fond für Gemälde 1 ausgeben?

_____ Euro

3. Wie viel Geld würden Sie aus Ihrem Fond für Gemälde 2 ausgeben?

_____ Euro

4. Kennen Sie den tatsächlichen Preis von Gemälde Nr. 1?

☐ ja, ungefähr _____ Euro

☐ nein

5. Kennen Sie den tatsächlichen Preis von Gemälde Nr. 2?

☐ ja, ungefähr _____ Euro

☐ nein

6. Kennen Sie Gemälde Nr. 1?

☐ ja

☐ ja, Gemälde ist von _____

☐ nein

7. Kennen Sie Gemälde Nr. 2?

☐ ja

☐ ja, Gemälde ist von _____

☐ nein

8. Entspricht Gemälde Nr. 1 Ihrer Meinung nach dem *üblichen* Kunstverständnis?

gar nicht	.....	.....	.....	.....	.....	sehr
1	2	3	4	5	6	7

9. Entspricht Gemälde Nr. 2 Ihrer Meinung nach dem *üblichen* Kunstverständnis?

gar nicht	.....	.....	.....	.....	.....	sehr
1	2	3	4	5	6	7

10. Wie sehr interessieren Sie sich für Kunst?

gar nicht interessiert	.....	.....	.....	.....	.....	sehr interessiert
1	2	3	4	5	6	7

11. Wie häufig haben Sie im letzten halben Jahr eine Kunstausstellung besucht?

- ☐ gar nicht
☐ 1 Mal
☐ 1 bis 3 Mal
☐ mehr als 3 Mal, nämlich ____ Mal

12. Gibt es einen Künstler, dessen Werke Sie ganz phantastisch finden?

- ☐ ja, nämlich _____
☐ nein

13. Weitere Lieblingskünstler?

- ☐ ja, nämlich _____
☐ nein

14. Gibt es eine Kunstrichtung/-epoche, die Sie besonders schätzen?

- ☐ ja, nämlich _____
☐ nein

15. Was studieren Sie / machen Sie beruflich?

16. Worum ging es Ihrer Meinung nach in dieser Untersuchung (bitte antworten Sie *kurz*)?

Vielen Dank. Bitte geben Sie dem Versuchsleiter ein Handzeichen.

D Study 3

Regulatory Focus Questionnaire (RFQ)

Vpn_Nr. ____

Dieser Fragebogen fragt Sie danach, WIE HÄUFIG bestimmte Ereignisse in Ihrem Leben passiert sind oder gerade passieren. Bitte kreuzen Sie zu jeder Frage eine Antwort an.

1. Halten Sie sich für unfähig das zu erreichen, was Sie sich für Ihr Leben erhoffen?

nie oder selten	.....	manchmal	.....	sehr häufig
1	2	3	4	5

2. Haben Sie als Heranwachsender jemals Dinge getan, die Ihre Eltern verboten hatten?

nie oder selten	.....	manchmal	.....	sehr häufig
1	2	3	4	5

3. Wie häufig haben Sie es erlebt, daß Ihnen etwas gelang und sie danach enthusiastisch noch härter an der Sache gearbeitet haben?

nie oder selten	.....	manchmal	.....	sehr häufig
1	2	3	4	5

4. Wie häufig gingen Sie Ihren Eltern als Heranwachsender auf die Nerven?

nie oder selten	.....	manchmal	.....	sehr häufig
1	2	3	4	5

5. Wie häufig haben Sie als Heranwachsender Regeln und Verhaltensvorschriften Ihrer Eltern befolgt?

nie oder selten	.....	manchmal	.....	sehr häufig
1	2	3	4	5

6. Wie häufig haben Sie als Heranwachsender Verhaltensweisen gezeigt, die Ihre Eltern unausstehlich fanden?

nie oder selten	.....	manchmal	.....	sehr häufig
1	2	3	4	5

7. Wie oft haben Sie Ziele erreicht, die Sie sich gesteckt haben?

nie oder selten	.....	manchmal	.....	sehr häufig
1	2	3	4	5

8. Ich bekam hie und da Probleme, weil ich nicht vorsichtig genug war.

nie oder selten	.....	manchmal	.....	sehr häufig
1	2	3	4	5

9. Wenn ich etwas wirklich Wichtiges erreichen will, bin ich nicht so gut, wie ich idealerweise sein könnte.

nie oder selten	.....	manchmal	.....	sehr häufig
1	2	3	4	5

10. Ich habe darin Fortschritte gemacht, in meinem Leben erfolgreich zu sein.

auf jeden Fall falsch	.....	manchmal	.....	auf jeden Fall richtig
1	2	3	4	5

11. Ich habe nur wenige Hobbys oder Tätigkeiten in meinem Leben gefunden, die mich wirklich interessierten oder motivierten, mich ihretwegen anzustrengen.

auf jeden Fall falsch	.....	manchmal	.....	auf jeden Fall richtig
1	2	3	4	5

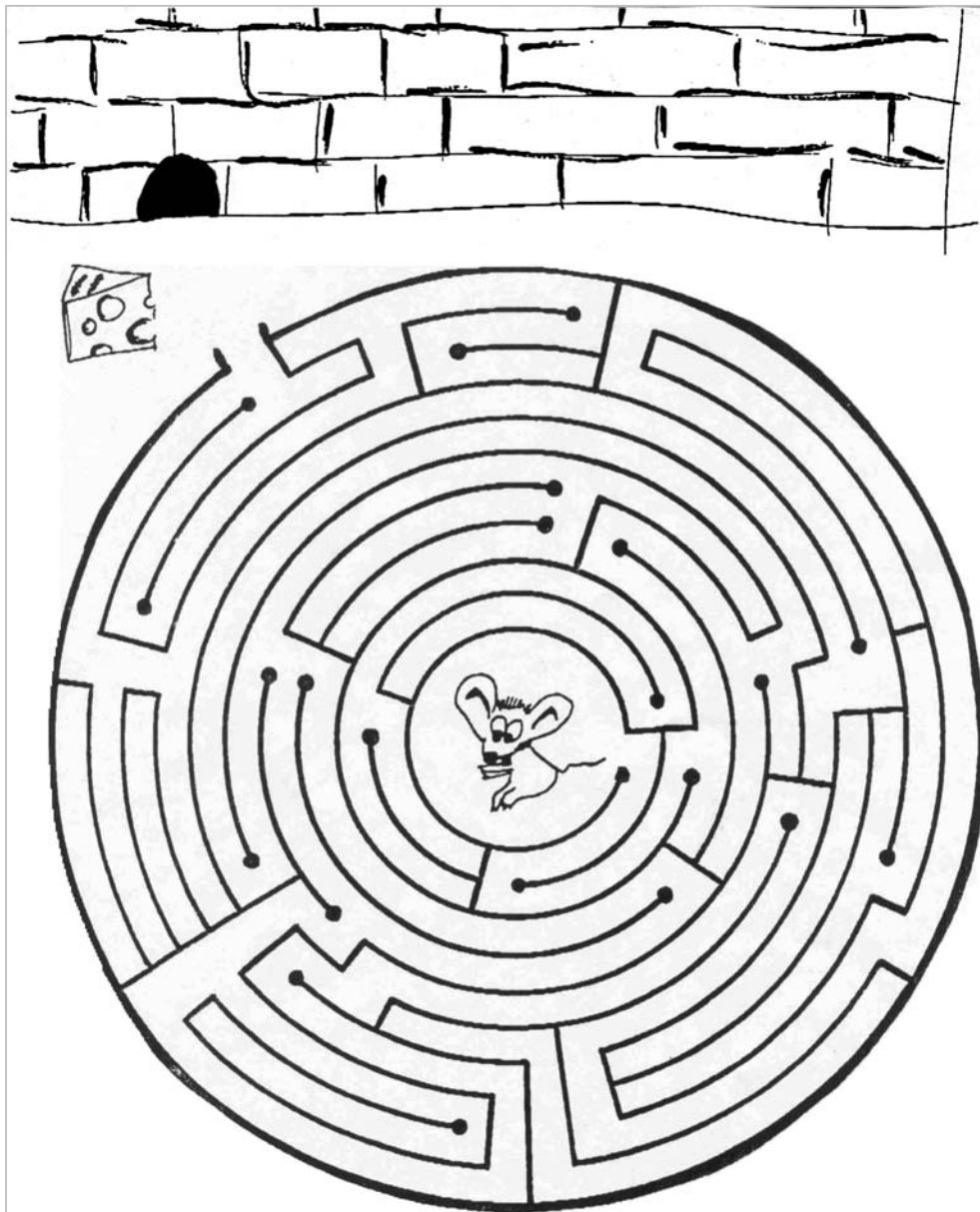
Instruction Maze (Prevention and Promotion Focus)

INTERNATIONAL UNIVERSITY BREMEN

In der folgenden Aufgabe sollen Sie ein Labyrinth lösen, wie Sie es sicher ähnlich schon kennen. Blättern Sie erst um, wenn es Ihnen die Versuchsleitung sagt. Sie haben für die folgende Aufgabe **1 Minute** Zeit! Finden Sie im Labyrinth den Weg für die Maus und fangen Sie bei der Maus selbst mit dem Zeichnen an.

Geben Sie der Versuchsleitung ein Handzeichen!

Maze (Prevention Focus)

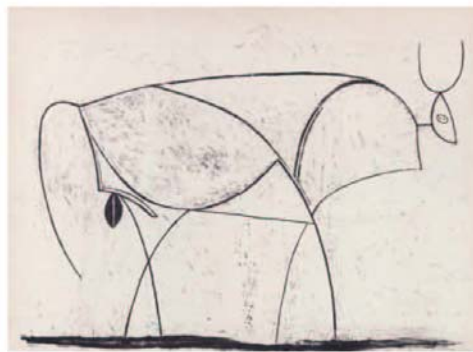
Maze (Promotion Focus)

Cover Sheet Folder

International University Bremen

**Beim Betrachten der Bilder können Sie gerne vor- und zurückblättern,
bevor Sie die jeweiligen Fragen beantworten.**

Presentation Format of the Artworks



Objekt Nr. 1

Note. Each artwork was kept in a clear plastic binder.

Questionnaire Study 3 (Prevention and Promotion Focus)

Vpn-Nr. _____
 Ordnernr. _____

International University Bremen

Liebe VersuchsteilnehmerInnen,

Sie haben einen Ordner erhalten, in dem Sie Bilder von verschiedenen Objekten finden.

Sie sollen nun angeben, wie typisch für Sie persönlich diese Objekte für die Kategorie „Kunst“ sind.

Bitte beantworten Sie zunächst folgende Frage:

Wie ist Ihre Stimmung gerade?

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

So, nun kann es losgehen.

Objekt Nr. 1

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 2

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 3

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 4

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 5

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 6

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 7

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 8

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 9

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 10

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 11

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 12

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Bevor sie weitermachen, beantworten Sie bitte die folgende Frage.

Wie ist Ihre Stimmung gerade?

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

Bitte machen Sie erst weiter, wenn Sie mit den Fragen vorher komplett fertig sind.

Geben Sie nun auf einer Skala von 1 bis 7 an, wie gut Ihnen persönlich das jeweilige Objekt gefällt.

Objekt Nr. 1 gefällt mir...

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

Objekt Nr. 2 gefällt mir...

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

Objekt Nr. 3 gefällt mir...

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

Objekt Nr. 4 gefällt mir...

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

Objekt Nr. 5 gefällt mir...

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

Objekt Nr. 6 gefällt mir...

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

Objekt Nr. 7 gefällt mir...

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

Objekt Nr. 8 gefällt mir...

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

Objekt Nr. 9 gefällt mir...

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

Objekt Nr. 10 gefällt mir...

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

Objekt Nr. 11 gefällt mir...

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

Objekt Nr. 12 gefällt mir...

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

Bitte umblättern.

Bitte geben Sie nun an, inwiefern das Objekt Ihrer Meinung nach dem üblichen Kunstverständnis entspricht

Objekt Nr. 1 entspricht dem üblichen Kunstverständnis...

gar nicht						sehr
1	2	3	4	5	6	7

Objekt Nr. 2 entspricht dem üblichen Kunstverständnis...

gar nicht						sehr
1	2	3	4	5	6	7

Objekt Nr. 3 entspricht dem üblichen Kunstverständnis...

gar nicht						sehr
1	2	3	4	5	6	7

Objekt Nr. 4 entspricht dem üblichen Kunstverständnis...

gar nicht						sehr
1	2	3	4	5	6	7

Objekt Nr. 5 entspricht dem üblichen Kunstverständnis...

gar nicht						sehr
1	2	3	4	5	6	7

Objekt Nr. 6 entspricht dem üblichen Kunstverständnis...

gar nicht						sehr
1	2	3	4	5	6	7

Objekt Nr. 7 entspricht dem üblichen Kunstverständnis...

gar nicht						sehr
1	2	3	4	5	6	7

Objekt Nr. 8 entspricht dem üblichen Kunstverständnis...

gar nicht						sehr
1	2	3	4	5	6	7

Objekt Nr. 9 entspricht dem üblichen Kunstverständnis...

gar nicht						sehr
1	2	3	4	5	6	7

Objekt Nr. 10 entspricht dem üblichen Kunstverständnis...

gar nicht						sehr
1	2	3	4	5	6	7

Objekt Nr. 11 entspricht dem üblichen Kunstverständnis...

gar nicht						sehr
1	2	3	4	5	6	7

Objekt Nr. 12 entspricht dem üblichen Kunstverständnis...

gar nicht						sehr
1	2	3	4	5	6	7

Zum Abschluss möchten wir Ihnen noch einige Fragen stellen.

1. Wie ist Ihre Stimmung gerade?

überhaupt nicht gut						sehr gut
1	2	3	4	5	6	7

2. Mögen Sie lieber traditionelle oder moderne Kunstwerke?

traditionell						modern
1	2	3	4	5	6	7

3. Kennen Sie eines der Objekte? Falls Sie das Objekt kennen, kreuzen Sie es bitte an. Falls Sie auch den Namen des Künstlers wissen, notieren Sie ihn bitte hinter dem jeweiligen Objekt.

- ☐ Objekt Nr. 1, von _____
☐ Objekt Nr. 2, von _____
☐ Objekt Nr. 3, von _____
☐ Objekt Nr. 4, von _____
☐ Objekt Nr. 5, von _____
☐ Objekt Nr. 6, von _____
☐ Objekt Nr. 7, von _____
☐ Objekt Nr. 8, von _____
☐ Objekt Nr. 9, von _____
☐ Objekt Nr. 10, von _____
☐ Objekt Nr. 11, von _____
☐ Objekt Nr. 12, von _____

4. Wie sehr interessieren Sie sich für Kunst?

gar nicht interessiert	.....	.....	.....	.....	.....	sehr interessiert
1	2	3	4	5	6	7

5. Wie häufig haben Sie im letzten halben Jahr eine Kunstaussstellung besucht?

- ☐ gar nicht
☐ 1 Mal
☐ 1 bis 3 Mal
☐ mehr als 3 Mal, nämlich ____ Mal

6. Gibt es einen Künstler, dessen Werke Sie ganz phantastisch finden?

- ☐ ja, nämlich _____
☐ nein

7. Weitere Lieblingskünstler?

- ☐ ja, nämlich _____
☐ nein

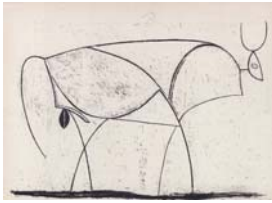
8. Gibt es eine Kunstrichtung/-epoche, die Sie besonders schätzen?

- ☐ ja, nämlich _____
☐ nein

9. Was studieren Sie / machen Sie beruflich? _____**10. Haben Sie an der IUB bereits an einer Studie über Kunstobjekte teilgenommen?**

- ☐ ja, nämlich _____
☐ nein

Artworks Study 3



Pablo Picasso
The Bull, 1946
Norton Simon Museum, Pasadena



Gian Lorenzo Bernini
Daphne and Apollo, 1622
Villa Borghese, Roma



Agnes Martin
Untitled No. 7, 1997
Private Collection



Joseph Beuys
The Rack, 1969
Staatliche Museen, Kassel



Erich Heckel
Countryside, 1907
Private Collection



Antonio Pollaiuolo
Portrait of a Woman, 1470
Museo Poldi Pezzoli, Milan



Meret Oppenheim
Luncheon in Fur, 1936
Museum of Modern Art, New York



Antonio Canaletto
Water Music, 1754
National Gallery of Art, London



Marcel Duchamp
Fountain, 1917
Philadelphia Museum of Art, Philadelphia



Alberto Giacometti
Nose, 1947
Guggenheim Museum, New York



Jan Vermeer
The Milkmaid, 1658
Rijksmuseum, Amsterdam



Camille Claudel
La Valse, 1892
Musée Rodin, Paris

Note. Artworks are presented in the same sequence as in Study 3.

Descriptive Statistics of all Artworks

Table D1

Mean Conventuality Ratings and Standard Deviations for every Artwork (Study 3, N=33)

Artwork	Mean	SD
Pablo Picasso (<i>The Bull</i>)	4.94	1.22
Gian Lorenzo Bernini (<i>Daphne and Apollo</i>)	5.97	1.38
Agnes Martin (<i>Untitled No. 7</i>)	2.67	1.34
Joseph Beuys (<i>The Rack</i>)	4.00	1.64
Erich Heckel (<i>Countryside</i>)	5.79	1.14
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	5.88	1.11
Meret Oppenheim (<i>Luncheon in Fur</i>)	3.61	1.60
Antonio Canaletto (<i>Water Music</i>)	5.82	1.24
Marcel Duchamp (<i>Fountain</i>)	3.09	1.65
Alberto Giacometti (<i>The Nose</i>)	3.73	1.64
Jan Vermeer (<i>Milkmaid</i>)	5.61	1.17
Camille Claudel (<i>La Valse</i>)	5.52	1.60

Note. Artworks are presented in the same sequence as in Study 3. The higher the mean, the higher the conventionalty of the artwork.

Table D2

Mean Typicality Ratings and Standard Deviations for every Artwork as a Function of Regulatory Focus (Study 3, N=34)

Artwork	Regulatory Focus			
	Prevention		Promotion	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Pablo Picasso (<i>The Bull</i>)	4.71	1.45	5.65	1.11
Gian Lorenzo Bernini (<i>Daphne and Apollo</i>)	5.35	1.58	6.00	1.10
Agnes Martin (<i>Untitled No. 7</i>)	2.47	1.28	3.41	1.87
Joseph Beuys (<i>The Pack</i>)	3.65	1.37	4.71	1.86
Erich Heckel (<i>Countryside</i>)	5.47	1.18	5.94	.83
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	5.65	1.27	5.29	1.40
Meret Oppenheim (<i>Luncheon in Fur</i>)	3.59	1.70	4.63	2.06
Antonio Canaletto (<i>Water Music</i>)	6.06	1.20	5.24	1.89
Marcel Duchamp (<i>Fountain</i>)	2.47	1.77	4.41	1.91
Alberto Giacometti (<i>The Nose</i>)	3.47	1.77	4.94	1.52
Jan Vermeer (<i>Milkmaid</i>)	5.47	1.42	5.18	1.42
Camille Claudel (<i>La Valse</i>)	5.76	1.25	5.41	1.28

Note. Artworks are presented in the same sequence as in Study 3.

Table D3

Mean Liking Ratings and Standard Deviations for every Artwork as a Function of Regulatory Focus (Study 3, N=33)

Artwork	Regulatory Focus			
	Prevention		Promotion	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Pablo Picasso (<i>The Bull</i>)	3.94	1.73	3.94	1.29
Gian Lorenzo Bernini (<i>Daphne and Apollo</i>)	4.38	2.22	3.29	1.61
Agnes Martin (<i>Untitled No. 7</i>)	2.38	1.54	2.94	1.71
Joseph Beuys (<i>The Pack</i>)	3.63	1.75	4.00	1.51
Erich Heckel (<i>Countryside</i>)	4.75	1.65	4.12	1.93
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	4.13	1.50	2.59	1.46
Meret Oppenheim (<i>Luncheon in Fur</i>)	3.38	1.82	3.59	1.87
Antonio Canaletto (<i>Water Music</i>)	5.25	1.34	4.12	2.03
Marcel Duchamp (<i>Fountain</i>)	2.06	1.44	3.41	1.62
Alberto Giacometti (<i>The Nose</i>)	2.50	1.63	2.29	1.21
Jan Vermeer (<i>Milkmaid</i>)	3.50	1.32	3.18	1.55
Camille Claudel (<i>La Valse</i>)	4.81	1.91	3.29	1.69

Note. Artworks are presented in the same sequence as in Study 3.

Table D4

Mean Typicality Ratings and Standard Deviations for every Artwork as a Function of Regulatory Focus Pride (Study 3, N=30)

Artwork	Regulatory Focus Pride			
	Prevention Pride		Promotion Pride	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Pablo Picasso (<i>The Bull</i>)	4.69	1.84	5.41	.94
Gian Lorenzo Bernini (<i>Daphne and Apollo</i>)	5.38	1.76	5.94	.93
Agnes Martin (<i>Untitled No. 7</i>)	2.15	1.41	3.59	1.70
Joseph Beuys (<i>The Pack</i>)	3.69	1.60	4.76	1.79
Erich Heckel (<i>Countryside</i>)	5.69	1.25	5.71	.92
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	5.69	1.38	5.24	1.35
Meret Oppenheim (<i>Luncheon in Fur</i>)	3.31	1.80	4.63	1.82
Antonio Canaletto (<i>Water Music</i>)	6.31	1.18	5.00	1.80
Marcel Duchamp (<i>Fountain</i>)	3.00	1.91	4.00	2.26
Alberto Giacometti (<i>The Nose</i>)	4.15	1.91	4.29	1.86
Jan Vermeer (<i>Milkmaid</i>)	5.54	1.27	5.06	1.43
Camille Claudel (<i>La Valse</i>)	5.77	1.01	5.29	1.36

Note. Artworks are presented in the same sequence as in Study 3.

Table D5

Mean Liking Ratings and Standard Deviations for every Artwork as a Function of Regulatory Focus Pride (Study 3, N=29)

Artwork	Regulatory Focus Pride			
	Prevention Pride		Promotion Pride	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Pablo Picasso (<i>The Bull</i>)	3.46	1.81	4.20	1.32
Gian Lorenzo Bernini (<i>Daphne and Apollo</i>)	4.31	1.75	3.31	1.96
Agnes Martin (<i>Untitled No. 7</i>)	2.08	1.75	3.06	1.61
Joseph Beuys (<i>The Pack</i>)	3.38	1.50	4.13	1.81
Erich Heckel (<i>Countryside</i>)	4.46	1.81	4.13	1.89
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	4.00	1.73	2.56	1.36
Meret Oppenheim (<i>Luncheon in Fur</i>)	2.92	1.61	3.81	1.97
Antonio Canaletto (<i>Water Music</i>)	6.15	.99	3.25	1.34
Marcel Duchamp (<i>Fountain</i>)	2.38	1.45	3.25	1.88
Alberto Giacometti (<i>The Nose</i>)	1.85	1.52	2.75	1.29
Jan Vermeer (<i>Milkmaid</i>)	3.38	1.19	3.06	1.53
Camille Claudel (<i>La Valse</i>)	4.23	1.69	3.56	2.10

Note. Artworks are presented in the same sequence as in Study 3.

E Study 4

Pretest (Dishes)

Vp-Nr. ____

International University Bremen

Liebe Teilnehmer und Teilnehmerinnen,

vielen Dank, dass Sie sich dazu bereit erklärt haben, an dieser Studie teilzunehmen. In Kooperation mit einigen Restaurants führen wir Studien durch, die sich rund ums Essen drehen. In dieser Studie interessieren wir uns dafür, inwiefern die folgenden Gerichte einer *herkömmlichen Küche* entsprechen oder nicht.

Bitte geben Sie spontan auf einer Skala von 1 bis 7 an, wie herkömmlich die Gerichte für Sie *persönlich* sind.

Bevor Sie beginnen, möchten wir Sie bitten, folgende Frage zu beantworten:

Wie fühlen Sie sich im Moment?

gar nicht gut	1	2	3	4	5	6	7	sehr gut
---------------	---	---	---	---	---	---	---	----------

So, nun kann es losgehen. Wie herkömmlich sind die Gerichte für Sie persönlich?

1. Pfannkuchen mit Blattspinat und Schafskäse und leichter Rahmsauce

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

2. Buttermilch Aloe Vera Eiscreme auf jungem Chicorée und Rucola

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

3. Spaghetti Bolognese mit frischem Parmesankäse

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

4. Rote Beete Pasta mit Bärlauchpesto

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

5. Coupe Danmark - Vanillerahmeis mit heißer Schokoladensauce

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

6. Crème brûlée mit Artischockenfleisch auf Fenchelbasis an Selleriekonfitüre

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

7. Crêpes mit Nussnougatsauce, Vanilleeis, frischen Erdbeeren und Rahm

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

8. Lauchcrèmesuppe mit einem Schuss Weißwein und Käsewürfeln

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

9. Hot Chocolate mit Krakenbein

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

10. Tomaten-Mozzarella-Salat mit Balsamicodressing und Knoblauchbaguette

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

11. Kurzgebratenes aus der Hirschkeule mit Ofenkürbis auf Mangokräuterbett

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

12. Gebratener Hummer mit Vanille, Schwarzwurzel und Pfefferbasillikum

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

13. Hausgemachtes Tomatensorbet mit Cheyennpfeffer auf Melonen

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

14. Bauernkotelett mit gebratenem Speck und Zwiebel, dazu Röstkartoffeln

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

15. Spicy Panna Cotta mit Mangomark

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

16. Warmer Apfelstrudel mit Vanillesauce und Eis

gar nicht herkömmlich	1	2	3	4	5	6	7	sehr herkömmlich
-----------------------	---	---	---	---	---	---	---	------------------

Wie fühlen Sie sich im Moment?

gar nicht gut	1	2	3	4	5	6	7	sehr gut
---------------	---	---	---	---	---	---	---	----------

Und nun noch ein paar Fragen zum Schluß:

1. Wie häufig sind Sie im letzten halben Jahr Essen gegangen?

- ☐ gar nicht
- ☐ 1 Mal
- ☐ 1 bis 3 Mal
- ☐ mehr als 3 Mal, nämlich ____ Mal

2. Wohin gehen Sie am liebsten Essen?

- ☐ Gourmetrestaurant
- ☐ Gaststätten
- ☐ v.a. internationale Küche, nämlich _____
- ☐ Fastfoodrestaurant
- ☐ andere Restaurants, nämlich _____

3. Sind Sie Vegetarier? ☐ ja ☐ nein

Vielen Dank!

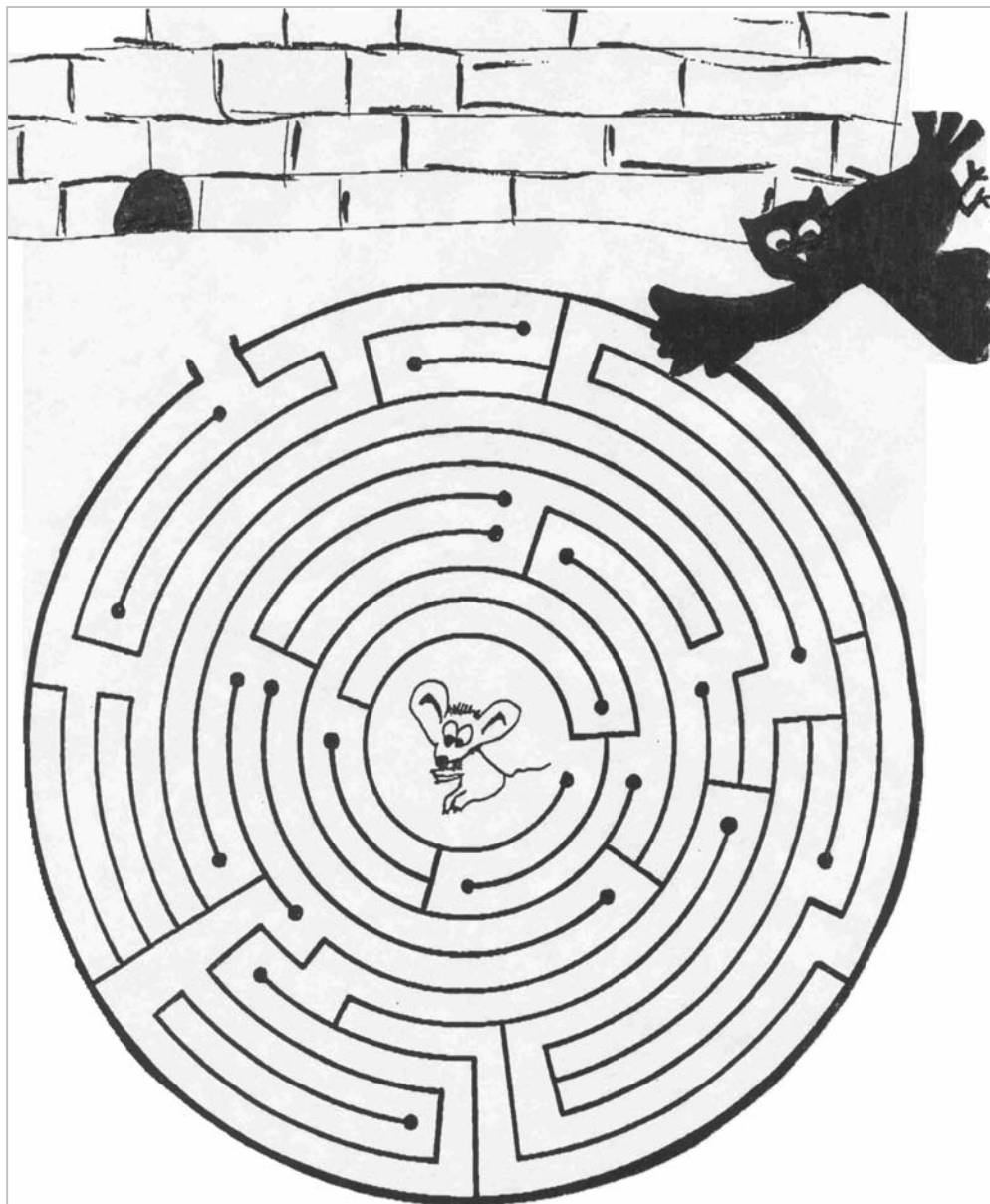
Instruction Maze (Prevention and Promotion Focus)

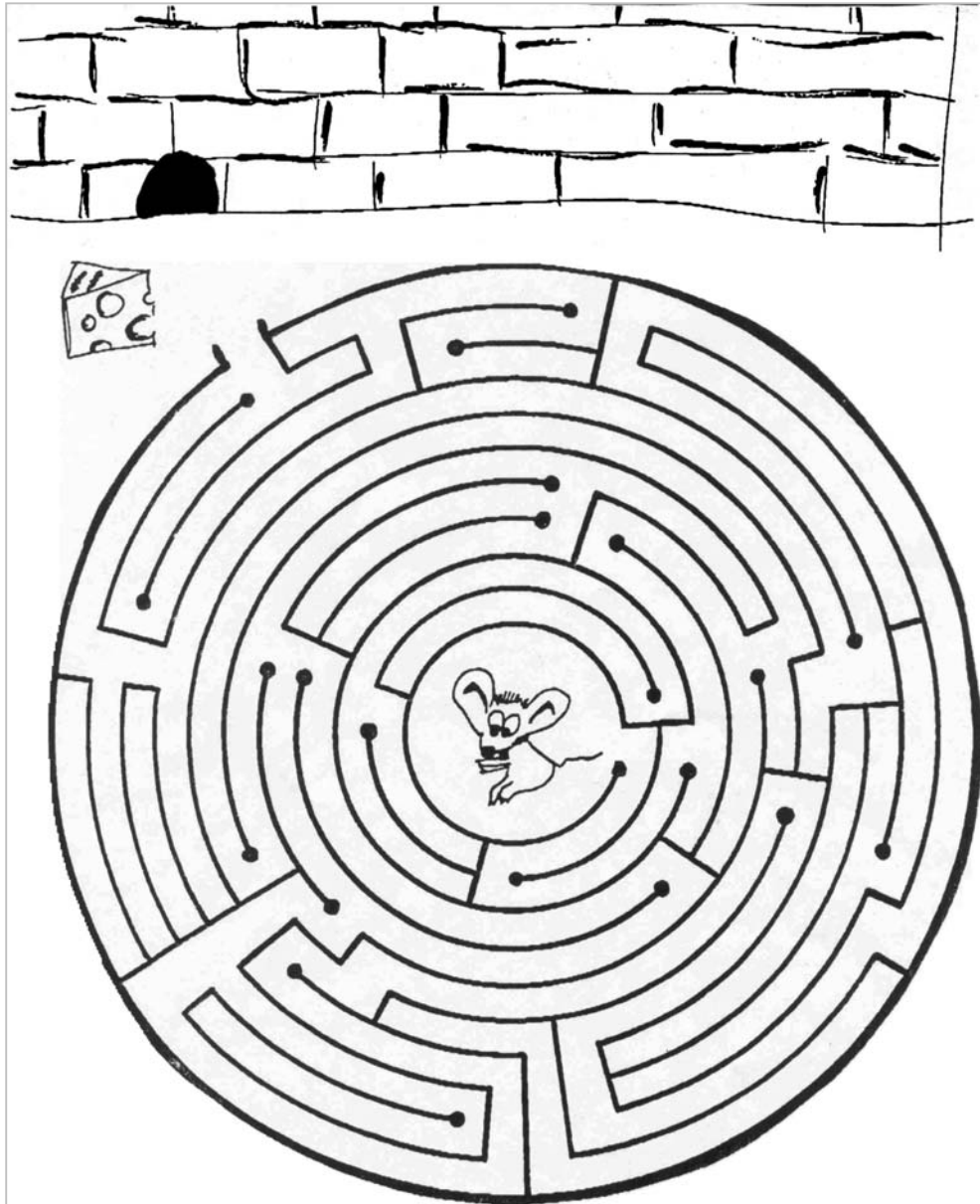
INTERNATIONAL UNIVERSITY BREMEN

In der folgenden Aufgabe sollen Sie ein Labyrinth lösen, wie Sie es sicher ähnlich schon kennen. Blättern Sie erst um, wenn es Ihnen die Versuchsleitung sagt. Sie haben für die folgende Aufgabe **1 Minute** Zeit! Finden Sie im Labyrinth den Weg für die Maus und fangen Sie bei der Maus selbst mit dem Zeichnen an.

Geben Sie der Versuchsleitung ein Handzeichen!

Maze (Prevention Focus)



Maze (Promotion Focus)

Questionnaire Study 4 (Prevention and Promotion Focus)

Vp-Nr. ____

Liebe Teilnehmer und Teilnehmerinnen,

in dieser Studie interessieren wir uns dafür, inwiefern die folgenden Gerichte eher typisch oder untypisch für die Kategorie Essen sind.

Bitte geben Sie *spontan* auf einer Skala von 1 bis 7 an, wie typisch für Sie persönlich diese Gerichte für die Kategorie Essen sind.

Bevor Sie beginnen, möchten wir Sie bitten, folgende Frage zu beantworten:

Wie ist Ihre Stimmung im Moment?

gar nicht gut	1	2	3	4	5	6	7	sehr gut
---------------	---	---	---	---	---	---	---	----------

So, nun kann es losgehen.

1. Pfannkuchen mit Blattspinat und Schafskäse und leichter Rahmsauce

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

1. Warmer Apfelstrudel mit Vanillesauce und Eis

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

2. Spicy Panna Cotta mit Mangomark

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

3. Bauernkotelett mit gebratenem Speck und Zwiebel, dazu Röstkartoffeln

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

4. Hausgemachtes Tomatensorbet mit Cheyennpfeffer auf Melonen

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

5. Gebratener Hummer mit Vanille, Schwarzwurzel und Pfefferbasilikum

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

6. Kurzgebratenes aus der Hirschkeule mit Ofenkürbis auf Mangokräuterbett

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

7. Tomaten-Mozzarella-Salat mit Balsamicodressing und Knoblauchbaguette

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

8. Hot Chocolate mit Krakenbein

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

9. Lauchcrèmesuppe mit einem Schuss Weißwein und Käsewürfeln

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

10. Crêpes mit Nussnougatsauce, Vanilleeis, frischen Erdbeeren und Rahm

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

11. Crème brûlée mit Artischockenfleisch auf Fenchelbasis an Selleriekonfitüre

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

12. Coupe Danmark - Vanillerahmeis mit heißer Schokoladensauce

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

13. Rote Beete Pasta mit Bärlauchpesto

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

14. Spaghetti Bolognese mit frischem Parmesankäse

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

15. Buttermilch Aloe Vera Eiscreme auf jungem Chicorée und Rucola

sehr untypisch	1	2	3	4	5	6	7	sehr typisch
----------------	---	---	---	---	---	---	---	--------------

Wie ist Ihre Stimmung im Moment?

gar nicht gut	1	2	3	4	5	6	7	sehr gut
---------------	---	---	---	---	---	---	---	----------

Wie *wahrscheinlich* ist es, dass Sie diese Gerichte tatsächlich bestellen?
(1 = gar nicht wahrscheinlich, 7 = sehr wahrscheinlich)

Pfannkuchen mit Blattspinat und Schafskäse und leichter Rahmsauce	1---2---3---4---5---6---7 gar nicht sehr
Warmer Apfelstrudel mit Vanillesauce und Eis	1---2---3---4---5---6---7 gar nicht sehr
Spicy Panna Cotta mit Mangomark	1---2---3---4---5---6---7 gar nicht sehr
Bauernkotelett mit gebratenem Speck und Zwiebel, dazu Röstkartoffeln	1---2---3---4---5---6---7 gar nicht sehr
Hausgemachtes Tomatensorbet mit Cheyennpfeffer auf Melonen	1---2---3---4---5---6---7 gar nicht sehr
Gebratener Hummer mit Vanille, Schwarzwurzel und Pfefferbasilikum	1---2---3---4---5---6---7 gar nicht sehr
Kurzgebratenes aus der Hirschkeule mit Ofenkürbis auf Mangokräuterbett	1---2---3---4---5---6---7 gar nicht sehr
Tomaten-Mozzarella-Salat mit Balsamicodressing und Knoblauchbaguette	1---2---3---4---5---6---7 gar nicht sehr
Hot Chocolate mit Krakenbein	1---2---3---4---5---6---7 gar nicht sehr
Lauchcrèmesuppe mit einem Schuss Weißwein und Käsewürfeln	1---2---3---4---5---6---7 gar nicht sehr
Crêpes mit Nussnougatsauce, Vanilleeis, frischen Erdbeeren und Rahm	1---2---3---4---5---6---7 gar nicht sehr
Crème brûlée mit Artischockenfleisch auf Fenchelbasis an Selleriekonfitüre	1---2---3---4---5---6---7 gar nicht sehr
Coupe Danmark - Vanillerahmeis mit heißer Schokoladensauce	1---2---3---4---5---6---7 gar nicht sehr
Rote Beete Pasta mit Bärlauchpesto	1---2---3---4---5---6---7 gar nicht sehr
Spaghetti Bolognese mit frischem Parmesankäse	1---2---3---4---5---6---7 gar nicht sehr
Buttermilch Aloe Vera Eiscreme auf jungem Chicorée und Rucola	1---2---3---4---5---6---7 gar nicht sehr

Wie wahrscheinlich ist es, dass Sie diese Gerichte tatsächlich bestellen?
(1 = gar nicht wahrscheinlich, 7 = sehr wahrscheinlich)

Pfannkuchen mit Blattspinat und Schafskäse und leichter Rahmsauce	1---2---3---4---5---6---7 gar nicht sehr
Warmer Apfelstrudel mit Vanillesauce und Eis	1---2---3---4---5---6---7 gar nicht sehr
Spicy Panna Cotta mit Mangomark	1---2---3---4---5---6---7 gar nicht sehr
Bauernkotelett mit gebratenem Speck und Zwiebel, dazu Röstkartoffeln	1---2---3---4---5---6---7 gar nicht sehr
Hausgemachtes Tomatensorbet mit Cheyennpfeffer auf Melonen	1---2---3---4---5---6---7 gar nicht sehr
Gebratener Hummer mit Vanille, Schwarzwurzel und Pfefferbasilikum	1---2---3---4---5---6---7 gar nicht sehr
Kurzgebratenes aus der Hirschkeule mit Ofenkürbis auf Mangokräuterbett	1---2---3---4---5---6---7 gar nicht sehr
Tomaten-Mozzarella-Salat mit Balsamicodressing und Knoblauchbaguette	1---2---3---4---5---6---7 gar nicht sehr
Hot Chocolate mit Krakenbein	1---2---3---4---5---6---7 gar nicht sehr
Lauchcrèmesuppe mit einem Schuss Weißwein und Käsewürfeln	1---2---3---4---5---6---7 gar nicht sehr
Crêpes mit Nussnougatsauce, Vanilleeis, frischen Erdbeeren und Rahm	1---2---3---4---5---6---7 gar nicht sehr
Crème brûlée mit Artischockenfleisch auf Fenchelbasis an Selleriekonfitüre	1---2---3---4---5---6---7 gar nicht sehr
Coupe Danmark - Vanillerahmeis mit heißer Schokoladensauce	1---2---3---4---5---6---7 gar nicht sehr
Rote Beete Pasta mit Bärlauchpesto	1---2---3---4---5---6---7 gar nicht sehr
Spaghetti Bolognese mit frischem Parmesankäse	1---2---3---4---5---6---7 gar nicht sehr
Buttermilch Aloe Vera Eiscreme auf jungem Chicorée und Rucola	1---2---3---4---5---6---7 gar nicht sehr

Und nun noch ein paar Fragen zum Schluß:

1. Wie viel Spaß hat Ihnen diese Studie gemacht?

gar keinen Spaß	1	2	3	4	5	6	7	sehr viel Spaß
-----------------	---	---	---	---	---	---	---	----------------

2. Wie häufig sind Sie im letzten halben Jahr Essen gegangen?

- ☐ gar nicht
- ☐ 1 Mal
- ☐ 1 bis 3 Mal
- ☐ mehr als 3 Mal, nämlich ____ Mal

3. Wohin gehen Sie am liebsten Essen? (Mehrfachnennung möglich)

- ☐ Gourmetrestaurant
- ☐ Gaststätten
- ☐ v.a. internationale Küche, nämlich _____
- ☐ Fastfoodrestaurant
- ☐ andere Restaurants, nämlich _____

4. Ihr Lieblingsgericht?

5. Gibt es etwas, was Sie gar nicht essen (Mehrfachnennung möglich)?

-
-
-
-

6. Sind Sie Vegetarier? ☐ ja ☐ nein

Vielen Dank!

Descriptive Statistics of all Dishes

Table E1

Mean Conventionality Ratings and Standard Deviations for every Dish (Pretest Study 4, N=20)

Dish	Mean	SD
Pancake on leaf spinach and sheep's cheese with a light cream sauce	3.45	1.82
Buttermilk Aloe Vera ice-cream on young chicory and rocket	1.70	.66
Spaghetti Bolognese with fresh Parmesan	6.70	.57
Beetroot pasta with broad-leaved garlic pesto	2.65	1.57
Coupe Denmark – creamy vanilla ice-cream with hot chocolate sauce	5.80	1.61
Crème brûlée with artichoke hearts on fennel basis with celery preserve	2.15	1.60
Crêpe with fudge sauce, vanilla ice-cream, fresh strawberries and cream	5.55	1.32
Cream of leek soup with a splash of white wine and cubes of cheese	4.85	1.87
Hot chocolate with octopus leg	1.80	1.15
Tomato-mozzarella salad with balsamico dressing and garlic bread	5.85	1.27
Roasted haunch of venison with oven pumpkin on a mango-herb-bed	2.85	1.93
Fried lobster with vanilla, black salsify and pepper basil	1.60	.88
Sorbet made of tomatoes with Cheyenne pepper on melon	2.40	1.79
Farmer's cutlet with fried bacon and onions, with roasted potatoes	5.50	1.91
Spicy panna cotta with mango pulp	2.75	1.86
Warm apple strudel with vanilla sauce and ice-cream	5.15	2.16

Note. Dishes are presented in the same sequence as in the pretest (sequence).

Table E2

Mean Typicality Ratings and Standard Deviations for every Dish as a Function of Regulatory Focus (Study 4, N=43)

Dish	Regulatory Focus			
	Prevention		Promotion	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Pancake on leaf spinach and sheep's cheese with a light cream sauce	3.39	2.13	3.55	1.82
Warm apple strudel with vanilla sauce and ice-cream	6.22	1.70	5.20	1.88
Spicy panna cotta with mango pulp	3.00	1.68	2.60	1.67
Farmer's cutlet with fried bacon and onions, with roasted potatoes	5.30	1.89	5.10	2.25
Sorbet made of tomatoes with Cheyenne pepper on melon	2.39	1.41	2.60	1.57
Fried lobster with vanilla, black salsify and pepper basil	2.22	1.48	2.50	1.79
Roasted haunch of venison with oven pumpkin on a mango-herb-bed	2.55	1.65	3.25	2.02
Tomato-mozzarella salad with balsamico dressing and garlic bread	6.65	.71	5.65	1.73
Hot chocolate with octopus leg	1.36	1.09	1.60	1.31
Cream of leek soup with a splash of white wine and cubes of cheese	4.65	1.75	4.50	1.76
Crêpe with fudge sauce, vanilla ice-cream, fresh strawberries and cream	5.04	1.66	4.85	1.87
Crème brûlée with artichoke hearts on fennel basis with celery preserve	1.87	1.32	2.10	1.33
Coupe Denmark – creamy vanilla ice-cream with hot chocolate sauce	5.13	1.94	4.75	1.29
Beetroot pasta with broad-leaved garlic pesto	2.65	1.77	2.50	1.61
Spaghetti Bolognese with fresh Parmesan	6.43	.99	5.95	1.96
Buttermilk Aloe Vera ice-cream on young chicory and rocket	1.70	1.46	2.50	1.50

Note. Dishes are presented in the same sequence as in Study 4 (sequence 1).

Table E3

Mean Behavioral Ratings and Standard Deviations for every Dish as a Function of Regulatory Focus (Study 4, N=43)

Dish	Regulatory Focus			
	Prevention		Promotion	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Pancake on leaf spinach and sheep's cheese with a light cream sauce	4.39	2.33	4.45	2.16
Warm apple strudel with vanilla sauce and ice-cream	5.83	1.92	5.65	1.87
Spicy panna cotta with mango pulp	2.87	1.96	3.20	1.91
Farmer's cutlet with fried bacon and onions, with roasted potatoes	4.52	1.81	4.32	2.26
Sorbet made of tomatoes with Cheyenne pepper on melon	2.74	1.89	2.95	1.73
Fried lobster with vanilla, black salsify and pepper basil	2.57	1.62	2.35	1.87
Roasted haunch of venison with oven pumpkin on a mango-herb-bed	2.83	1.92	3.25	1.94
Tomato-mozzarella salad with balsamico dressing and garlic bread	6.13	1.39	5.60	1.88
Hot chocolate with octopus leg	1.43	.99	1.80	1.51
Cream of leek soup with a splash of white wine and cubes of cheese	4.74	2.26	4.55	1.93
Crêpe with fudge sauce, vanilla ice-cream, fresh strawberries and cream	5.32	1.81	5.35	1.93
Crème brûlée with artichoke hearts on fennel basis with celery preserve	2.52	1.78	2.10	1.52
Coupe Denmark – creamy vanilla ice-cream with hot chocolate sauce	5.52	1.53	5.55	1.61
Beetroot pasta with broad-leaved garlic pesto	3.09	2.07	3.00	1.75
Spaghetti Bolognese with fresh Parmesan	6.09	1.50	5.85	1.84
Buttermilk Aloe Vera ice-cream on young chicory and rocket	1.96	1.22	3.10	1.86

Note. Dishes are presented in the same sequence as in Study 4 (sequence 1).

F Study 5

Manipulation Proximal Condition

Vpn-Nr.: _____

Liebe VersuchsteilnehmerInnen,
in dieser Studie möchten wir Sie zunächst einmal bitten, folgendes zu tun.
Bitte versuchen Sie sich vorzustellen, es ist **Morgen**. Gehen Sie für ein
paar Minuten auf eine Zeitreise. Überlegen Sie sich, wie Ihr Leben wohl
morgen aussieht. Was ist dann? Was fühlen Sie dann?
Bitte geben Sie dem Versuchsleiter ein Handzeichen.

Morgen...

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface.

Bitte geben Sie dem Versuchsleiter ein Handzeichen, sobald Sie fertig sind.

Manipulation Distal Condition

Vpn-Nr.: _____

Liebe VersuchsteilnehmerInnen,

in dieser Studie möchten wir Sie zunächst einmal bitten, folgendes zu tun. Bitte versuchen Sie sich vorzustellen, es ist **in einem Jahr**. Gehen Sie für ein paar Minuten auf eine Zeitreise. Überlegen Sie sich, wie ihr Leben wohl *in einem Jahr* aussieht. Was ist dann? Was fühlen Sie dann?

Bitte geben Sie dem Versuchsleiter ein Handzeichen.

In einem Jahr...

[illegible]

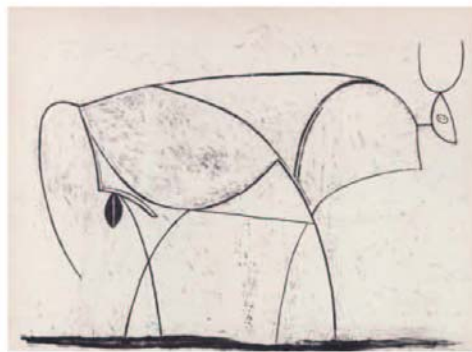
Bitte geben Sie dem Versuchsleiter ein Handzeichen, sobald Sie fertig sind.

Cover Sheet Folder

International University Bremen

**Beim Betrachten der Bilder können Sie gerne vor- und zurückblättern,
bevor Sie sich entscheiden, wie typisch für Sie persönlich das jeweilige
Objekt für die Kategorie *Kunst* ist.**

Presentation Format of the Artworks



Objekt Nr. 1

Note. Each artwork was kept in a clear plastic binder.

Questionnaire Study 5 (Proximal and Distal Condition)

Vpn-Nr. _____
Ordnernr. _____

International University Bremen Projekt von Prof. Dr. Artus Berg

Liebe VersuchsteilnehmerInnen,

Sie haben einen Ordner erhalten, in dem Sie Bilder von verschiedenen Objekten finden.

Sie sollen nun angeben, wie typisch für Sie persönlich diese Objekte für die Kategorie „Kunst“ sind.

Bitte beantworten Sie zunächst folgende Frage:

Wie ist Ihre Stimmung gerade?

überhaupt nicht gut	.....	.....	.....	.....	.....	sehr gut
1	2	3	4	5	6	7

So, nun kann es losgehen.

Objekt Nr. 1

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 2

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 3

sehr untypisch						Sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 4

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 5

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 6

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 7

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 8

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 9

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 10

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 11

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Objekt Nr. 12

sehr untypisch						sehr typisch
1	2	3	4	5	6	7

Bitte blättern Sie um!

Zum Abschluss möchten wir Ihnen noch einige Fragen stellen.

1. Wie ist Ihre Stimmung gerade?

überhaupt nicht gut	.....	.....	.....	.....	.....	sehr gut
1	2	3	4	5	6	7

2. Kennen Sie eines der Objekte? Falls Sie das Objekt kennen, kreuzen Sie es bitte an. Falls Sie auch den Namen des Künstlers wissen, notieren Sie ihn bitte hinter dem jeweiligen Objekt.

- ☐ Objekt Nr. 1, von _____
☐ Objekt Nr. 2, von _____
☐ Objekt Nr. 3, von _____
☐ Objekt Nr. 4, von _____
☐ Objekt Nr. 5, von _____
☐ Objekt Nr. 6, von _____
☐ Objekt Nr. 7, von _____
☐ Objekt Nr. 8, von _____
☐ Objekt Nr. 9, von _____
☐ Objekt Nr. 10, von _____
☐ Objekt Nr. 11, von _____
☐ Objekt Nr. 12, von _____

3. Wie sehr interessieren Sie sich für Kunst?

gar nicht interessiert	.....	.....	.....	.....	.....	sehr interessiert
1	2	3	4	5	6	7

4. Wie häufig haben Sie im letzten halben Jahr eine Kunstaussstellung besucht?

- ☐ gar nicht
☐ 1 Mal
☐ 1 bis 3 Mal
☐ mehr als 3 Mal, nämlich ____ Mal

5. Gibt es einen Künstler, dessen Werke Sie ganz phantastisch finden?

- ☐ ja, nämlich _____
☐ nein

6. Weitere Lieblingskünstler?

- ☐ ja, nämlich _____
☐ nein

7. Gibt es eine Kunstrichtung/-epoche, die Sie besonders schätzen?

- ☐ ja, nämlich _____
☐ nein

8. Was studieren Sie / machen Sie beruflich? _____

9. Bitte stellen Sie *kurz* dar, was in dieser Studie Ihrer Meinung nach untersucht wurde?

Abschließend haben wir noch ein paar Fragen zu der Zeitreise, die Sie in der vorherigen Studie gemacht haben.

1. Wie gerne haben Sie die kleine Zeitreise gemacht?

sehr ungern						sehr gern
1	2	3	4	5	6	7

2. Wie schwer fiel Ihnen die kleine Zeitreise?

sehr leicht						sehr schwer
1	2	3	4	5	6	7

3. Wie genau war Ihre Vorstellung?

sehr ungenau						sehr genau
1	2	3	4	5	6	7

4. Wie positive war Ihre Vorstellung?

sehr negativ						sehr positiv
1	2	3	4	5	6	7

Artworks Study 5



Pablo Picasso
The Bull, 1946
Norton Simon Museum, Pasadena



Gian Lorenzo Bernini
Daphne and Apollo, 1622
Villa Borghese, Roma



Agnes Martin
Untitled No. 7, 1997
Private Collection



Joseph Beuys
The Rack, 1969
Staatliche Museen, Kassel



Hans Arp
Torso Garbe, 1958
Kunstsammlung LRP Landesbank
Rheinland-Pfalz



Antonio Pollaiuolo
Portrait of a Woman, 1470
Museo Poldi Pezzoli, Milan



Richard Long
South Bank Cycle, 1991
Tate Gallery, London



Antoine Coypel
Young Girl with Dog, 1710
Musée National du Louvre, Paris



Jackson Pollock
Reflection of the Big Dipper, 1947
Stedelijk Museum, Amsterdam



Andy Warhol
Brillo Boxes, 1969
Norton Simon Museum, Pasadena



Andrea del Verrocchio
Dama col Mazzolino, 1480
Bargello Museum, Florence



Erich Heckel
Countryside, 1907
Private Collection

Note. Artworks are presented in the same sequence as in Study 5.

Descriptive Statistics of all Artworks

Table F1

Mean Typicality Ratings and Standard Deviations for every Artwork as a Function of Temporal Perspective (Study 5, N=25)

Artwork	Temporal Perspective			
	Proximal		Distal	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Pablo Picasso (<i>The Bull</i>)	6.00	1.22	5.75	1.66
Gian Lorenzo Bernini (<i>Daphne and Apollo</i>)	6.23	1.01	5.25	1.82
Agnes Martin (<i>Untitled No. 7</i>)	2.15	1.07	3.25	1.82
Joseph Beuys (<i>The Pack</i>)	4.08	1.80	5.00	1.76
Hans Arp (<i>Torso Garbe</i>)	5.85	1.34	6.08	1.51
Antonio Pollaiuolo (<i>Portrait of a Woman</i>)	5.62	1.61	5.42	1.93
Richard Long (<i>South Bank Cycle</i>)	4.62	1.71	5.00	2.00
Antoine Coypel (<i>Young Girl with Dog</i>)	5.38	1.85	5.67	1.72
Jackson Pollock (<i>Reflection of the Big Dipper</i>)	5.15	1.28	4.50	1.88
Andy Warhol (<i>Brillo Boxes</i>)	2.00	1.15	3.17	2.33
Andrea del Verrocchio (<i>Lady with Flowers</i>)	5.46	1.05	5.00	2.13
Erich Heckel (<i>Countryside</i>)	5.15	1.86	5.42	1.93

Note. Dishes are presented in the same sequence as in Study 5.

G CD-Rom containing raw data of Pretests and Studies 1 to 5

The CD contains the raw data of the reported studies in SPSS format.

Declaration by Word of Honor

I hereby certify on my honor that this thesis is my own work and that I have completed it without undue help from third parties and without the use of any material other than permitted. Any thoughts and ideas taken directly or indirectly from others are highlighted as such. Neither this work in its present form nor any other work of its contents has been submitted to another German or foreign board of examiners so far.

Bremen, 14.03.2006**Katrin Schimmel**