INFLUENCING AFFECTIVE FORECASTS

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CONTENTS

INTRODUCTION

When facing decisions such as where to live, which job to choose, or how to spend this year's vacation, people attempt to predict how these events will influence their lives and their future happiness. However, such predictions are quite difficult. Research on *affective forecasting* has identified a catalogue of biases, such as framing effects, biased recall of similar past events and the failure to correct for unique influences of the situation, that show that that people cannot accurately predict their future emotions (for reviews see Loewenstein & Schkade, 1999; MacInnes, Patrick, & Park, 2005; Wilson & Gilbert, 2003).

Affective forecasting also plays a major role in the *consumer context*. Most importantly, affective forecasts are relevant for consumer decisions. For example, it has been shown that the intention to purchase a product and the intention to take out a loan are influenced by the emotions that people imagine will result from their decisions (Pollai, Hoelzl, Hahn, & Hahn, 2011). Thus, the quality of the decisions depends on the accuracy of affective forecasts (Loewenstein & Schkade, 1999). A second aspect that may be influenced by affective forecasts is the timing of a decision. The anticipation of positive emotions may lead to consumption delay that is meant to conserve the positive emotions. Alternatively, the anticipation of negative emotions may lead to an acceleration of consumption to quickly complete the inevitable or may lead to a long delay of consumption to avoid the emotions completely (MacInnis et al., 2005). Finally, MacInnis et al. (2005) argue that anticipated emotions are relevant to current mood, emotional well-being, and coping mechanisms, as they can evoke pleasure and pain in the present.

In this dissertation, it was analyzed how affective forecasts in the consumer context can be influenced. The starting points of the investigations were two sources of biases in affective forecasting; i.e., focalism and lay theories of adaptation.

BIASES IN AFFECTIVE FORECASTING

Affective forecasts can involve *four dimensions* of emotions: the valence, specific quality, intensity, and duration (MacInnis et al., 2005; Wilson & Gilbert, 2003). Theoretically, affective misforecasting can occur in each of these dimensions. However, research has shown that people are generally able to accurately predict the *valence* of emotions; people tend to know whether an event will make them feel good or bad (Baron, 1992). Depending on the ambiguity (Robinson & Clore, 2001) and complexity of events (Larsen, McGraw, & Cacioppo, 2001; Liberman, Sagristano, & Trope, 2002), people can also correctly predict the *specific qualities* of emotions (e.g., sadness or anger). However, the *durability and intensity* of emotions are more difficult to predict. People tend to overestimate the duration for which a future event will affect them; this phenomenon is called durability bias (Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998). Moreover, people frequently overestimate how intensely they will experience a future feeling, which is referred to as intensity bias (Buehler & McFarland, 2001). Intensity bias and durability bias are closely connected. Therefore, researchers often refer to them jointly as *impact bias* (e.g., Finkenauer, Gallucci, van Dijk, & Pollmann, 2007; Gilbert, Driver-Linn, & Wilson, 2002; Mellers & McGraw, 2001; Wilson & Gilbert, 2003, 2005). Impact bias has been observed for all types of emotional events and it is the most prevalent error in affective forecasting (Wilson & Gilbert, 2003). Two important sources of the impact bias are focalism and sense making. Focalism describes the tendency to focus only on a specific future event while neglecting other possible influences on future emotions (Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000). Sense making describes the failure to recognize the ease of making sense of novel or unexpected events that makes them seem ordinary and of less impact (Wilson & Gilbert, 2005).

Thus far, most empirical studies on affective forecasting in the consumer context have focused on *experiential purchases;* i.e., purchases for which the primary intention is to acquire some type of experience (van Boven & Gilowich, 2003). Such studies have investigated prediction biases in the context of holiday trips (e.g., Klaaren, Hodges, & Wilson, 1994; Mitchell, Thompson, Peterson, & Cronk, 1997; Wirtz, Kruger, Scollon, & Diener, 2003) and public holidays (e.g., Buehler & McFarland, 2001; van Boven & Ashworth, 2007), and in the context of future food consumption (Gilbert, Gill, & Wilson, 2002; Kahneman & Snell, 1992; Philips & Baumgartner, 2002; Read & van Leeuwen, 1998; Simonson, 1990). In contrast to experiential purchases, *material purchases* involve the acquisition of a material possession (van Boven & Gilowich, 2003). Material products are not consumed only once but are consumed over a period of time, which makes affective forecasting even more difficult because consumers need to predict how their emotions will change over the total period of time for with they will own and use the product.

Lay theories of affect progression address beliefs about decreasing and continuing affect over time (Kahneman & Snell, 1992; Snell, Gibbs, & Varey, 1995; Ubel, Loewenstein, & Jepson, 2005). Depending on the accessibility of these theories, people may either rely on lay theories of continuity or theories of progression of affect (Igou, 2004). In the consumer context, it has been shown that people over-apply *lay theories of adaptation*. For example, consumers overestimate adaptation to food and predict decreases in liking that do not correspond to experienced emotions (Kahneman & Snell, 1992). In the context of material products, it has been shown that lay theories of adaptation are related to the underestimation of long-term consumption-related future emotions concerning shoes (Pollai, Hoelzl, & Possas, 2010).

Findings related to impact bias and on lay theories of adaptation should not be seen as contradictory. Research on impact bias has analyzed the effects of single events at specific

points in time. However, for material products, it is necessary to apply a different perspective that accounts for repeated product experience and to differentiate between the immediate and long-term emotional impacts of a product.

INFLUENCING AFFECTIVE FORECASTS

Influencing Focalism

If consumers focus on the impact of a new product on their future happiness, they will overestimate their future emotions (impact bias), which can result in reduced product satisfaction once the experienced emotions do not conform to the expectations (MacInnis et al., 2005; Phillips & Baumgartner, 2002; Wilson & Gilbert, 2005). This phenomenon is indeed a problem from the consumer's perspective. However, it is also in the interest of marketers to prevent consumers from overestimating their future emotions. Although overoptimistic consumers have an increased willingness to pay for a product in the short-term (Tanner & Carlson, 2009), in the long-term, the experience of emotions that are less positive than expected negatively affects product evaluations (Patrick, MacInnes, & Park, 2007), which can reduce brand loyalty and increase negative word of mouth (MacInnes et al., 2005). Several techniques have been established to reduce focalism. For example, inducing thoughts of similar past experiences (Buehler & McFarland, 2001; Morewedge, Gilbert, & Wilson, 2005), priming of concrete thoughts about the future event (Wesp, Sandry, Prisco, & Sarte, 2009) and affective averaging (i.e., the inducing of thoughts about the concrete features of the most recent relevant past experience) (Comerford, 2011) are techniques that can help people focus less on the impact of a single event. The techniques mentioned so far require relevant past experiences or specific knowledge of the future event. Therefore, these techniques are not applicable for consumers who think about the purchase of a new product with which they have no prior experience. However, *future diary approaches* to reducing focalism do not require experience or any specific product knowledge. The basic idea behind future diary

approaches is to remind people that events, such as the purchase of a new product, do not occur in isolation but rather occur during everyday life and are accompanied by other activities that influence future well-being (Ayton, Pott, & Elwakili, 2007; Ubel et al., 2001; Wilson et al., 2000).

Influencing Lay Theories of Adaptation

If consumers over-apply lay theories of adaptation (Pollai et al., 2010), they may miss opportunities to purchase products that would contribute more strongly to their long-term future happiness than they think. For marketers, over-application means that they cannot fully exploit the sales potential. Whether people expect adaptation processes or constant emotions over time depends on the degree to which lay theories of continuity or progression of affect are accessible (Igou, 2004).

It has been shown that the accessibility of theories can be manipulated. For example, Igou (2004) conducted two studies in which people were subtly primed with a lay theory of either continuing affect or decreasing affect prior to stating their affective forecasts. The duration of the affective forecasts for positive (i.e., a vacation) and for negative events (i.e., poor results in a test) were longer for the people who were primed with a theory of continuing affect and shorter for the people who were primed with a theory of decreasing affect.

Another method of increasing the salience of lay theories of decreasing affect is to require predictions of product enjoyment for multiple points in time (Wang, Novemsky, & Dhar, 2009). A study by Wang et al. (2009) stated that affective forecasts for near and distant points in time reduce the predicted enjoyment, but predictions made for a single point in time do not. Similarly, *highlighting the course of time* in advertising could make lay theories of adaptation more salient. For example, advertisements sometimes refer to multiple points in time to communicate positive product features such as longevity, extended warranties, or favorable financing options.

Because consumers tend to over-apply lay theories of adaptation (Pollai et al., 2010), the investigation of the boundary conditions for the reliance on lay theories of adaptation is relevant. In the study by Wang et al. (2009), subtle changes concerning the usage variability that were communicated via advertisements determined whether people applied lay theories of adaptation. Such approaches could be a starting point for assisting consumers with long-term affective forecasts.

OVERVIEW OF THE CONTENTS OF THE ARTICLES

The goal of this dissertation is to examine the factors that influence affective forecasts for material products both from a consumer policy perspective and from a marketing perspective. This dissertation consists of three articles. Article 1 addresses focalism, and Article 2 and Article 3 address lay theories of adaptation. In all of the studies, product involvement, i.e., the perceived relevance of a product based on a person's needs, values and interests (Zaichkowsky, 1985), was considered to be an influencing factor. Moreover, situational and personal differences were included.

The *first article* investigates whether writing a future diary could reduce focalism and attenuate affective forecasts for material products. The article is the first to test a future diary technique in the consumer context. The participants in the future diary condition made less positive (i.e., more cautious) affective forecasts. This result indicates that writing a future diary can help consumers to realize that their future happiness does not depend only on the purchase of a new product but rather depends on the sum of activities that are part of everyday life.

The *second article* investigates whether advertisements that highlight the course of time can make lay theories of adaptation more salient and result in less positive consumption-related affective forecasts. The results revealed that advertisements with two free services that referred to two points in time resulted in less positive affective forecasts than did

advertisements with only one free service that referred to a single point in time. These findings indicate that marketing measures can increase consumers' belief in adaptation and weaken the predicted emotional value of a product rather than enhancing it.

The *third article* more closely investigates the relationship between lay theories of adaptation and affective forecasts and underlines the importance of lay theories of adaptation by revealing their effects in the presence of other situational and personal drivers of affective forecasts. The results indicated that lay theories of adaptation substantially influence affective forecasts for material products. Moreover, the third article shows that thinking about different usage situations can increase consumers' perceptions of product variability, which in turn decreases the salience of lay theories of adaptation.

The next section contains more detailed descriptions of the three articles and presents their goals, methods, main results, and implications.

Article 1: Assisting consumers with consumption-related affective forecasts: The future diary technique in the context of material products [1]

The aim of the first article was to investigate whether a future diary technique could help consumers to make less positive (i.e., more cautious) affective forecasts. The technique was based on an approach by Wilson et al. (2000). The participants indicated how their schedules looked like by allocating 15 pre-chosen activities (such as attending lectures or meeting friends) and two additional personally relevant activities to 12 time slots, each of which represented two hours of the day.

A laboratory study with a 2x4 factorial design was conducted at a German university. The participants either answered the future diary or worked on a filler task before they saw an advertisement for a product they imagined buying. The participants stated their affective forecasts for the time immediately after the hypothetical purchase of this product and also

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[1] Stangl, T. & Hoelzl, E. (revised and resubmitted). Assisting consumers with consumption-related affective forecasts: The future diary technique in the context of material products. *Journal of Consumer Affairs*.

predicted the decline in positive consumption-related emotions they would experience over time. Four products with different levels of involvement (i.e., a garden torch, a room scent, a digital camera, and a mountain bike) were tested in a between-subject design to enhance the generalizability of the results. Other possible individual and situational factors that may have influenced the affective forecasts were controlled for by including baseline emotions, product experience, consumer skepticism, materialism and trait optimism in the analyses.

The results revealed that the participants in the future diary condition made less positive affective forecasts across the different products. Thinking about non-focal events decreased the influences of the single products on the predicted consumption-related emotions. Irrespective whether they completed future diaries, the participants expected their emotions to decline over time. Including the control variables did not change this pattern of results.

Overall, the first article showed that writing a future diary was suitable to helping consumers to make more moderate affective forecasts. This article highlights that familiarizing consumers with the idea of writing a future diary would be a good approach in terms of consumer protection.

Article 2: Are two free services always better than one? Affective forecasts for products with time-related offers[2]

The first article analyzed how consumers can be assisted with affective forecasts. The second article adopted a different perspective by examining whether specific aspects of advertisements can influence positive consumption-related affective forecasts. Specifically, the goal of the second article was to explore whether advertisements that referred to multiple points in time could increase the salience of lay theories of adaptation and reduce positive consumption-related affective forecasts.

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[2] Stangl, T. & Hoelzl, E. (submitted). Are two free services always better than one? Affective forecasts for products with time-related offers. *Journal of Business and Psychology.*

An online study with a 2x2 factorial design was conducted at a large German university. The participants saw an advertisement for a product that either offered two free services that referred to two points in time or a single free service that referred to a single point in time. Two low involvement products (i.e., an indoor fireplace and a carpet) and two high involvement products (i.e., a car and a mountain bike) were tested in a between-subjects design. The participants imagined that they had decided to buy the product and stated their affective forecasts for the time shortly after the purchase and for three months after the purchase. Baseline emotions, product experience, consumer skepticism and materialism were included as control variables. Because there were no effects of trait optimism in Study 1, trait optimism was not included in Studies 2 and 3.

The results indicated that the advertisements with two free services that referred to two points in time resulted in less positive affective forecasts for the product than did the same advertisements with only a single free service that referred to single point in time. This pattern was present in both the affective forecasts for the time shortly after the purchase and those for three months after the purchase, and the latter forecasts were less positive in the experimental and control conditions. Effects of mentioning two points in time were found for both the low and high involvement products. Again, incorporating the control variables did not change the pattern of results.

The second article showed that advertisements can influence affective forecasts by highlighting the course of time, which makes lay theories of adaptation more salient. Even when multiple points in time are mentioned to communicate positive features of a product (e.g., free services), the mention of these multiple time points can decrease positive consumption-related affective forecasts.

Article 3: The effects of lay theories of adaptation on affective forecasts for material products[3]

The third article also investigated lay theories of adaptation. The aim of the third article was twofold. The relevance of lay theories of adaptation on affective forecasts was explored by analyzing their influence in the presence of situational and personal drivers of affective forecasts in the consumer context. Moreover, the possible influence of the perceived variability in the consumption experience mediated through belief in adaptation was tested.

An online-study was conducted with female students of a large German university. The participants imagined buying a pair of shoes and either described three different future usage situations, three similar future usage situations or no future usage situations before they made their affective forecasts. The forecasts were made either for the time two weeks or four weeks after the purchase. In addition to lay theories of adaptation and the perceived variability of the consumption experience, baseline emotions, materialism and involvement were included to determine the influences of lay theories of adaptation in the presence of these other factors. The data were analyzed using SEM with AMOS.

The results of the third article showed that a high belief in adaptation resulted in less positive affective forecasts. The effects of lay theories of adaptation were substantial despite the inclusion of positive baseline emotions, materialism, and involvement (which all positively influenced affective forecasts) in the model. Regarding the second aim of the article, thinking about different usage situations was found to increase the perceived variability of the consumption experience, which in turn decreased belief in adaptation.

Overall, the third article indicated that lay theories of adaptation are important for understanding affective forecasting in the consumer context. Furthermore, this article

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[3] Stangl, T. (submitted). The effects of lay theories of adaptation on affective forecasts for material products. *Marketing Letters.*

provided insight into how lay theories of adaptation can be influenced via manipulation of the perceived variability of the consumption experience.

GENERAL DISCUSSION

The dissertation contributes to the research on affective forecasting by investigating two sources of biases in affective forecasts for material products, i.e., focalism and lay theories of adaptation. Altogether, the findings contribute to an increased understanding of how consumer policy and marketing measures can influence affective forecasts.

The *first article* analyzed how affective forecasts can be influenced by applying a consumer perspective. It was explored whether focalism, which is the tendency to focus on the impact of a single event (Wilson et al., 2000), could be reduced by writing a future diary. The contemplation of non-focal events was expected to remind people that events do not occur in isolation and result in less positive affective forecasts. When averaged across the four products studied, the affective forecasts of the participants in the future diary groups were found to be less positive. Future diary techniques had not been previously applied in the context of material products. This research transfers the findings regarding future diary techniques into the consumer context. Moreover, this research refines the future diary approach of Wilson et al. (2000). The technique that was applied here required less time and was therefore easier to administer. Furthermore, this technique was also more self-relevant due to the option of entering one's own activities into the diary. Self-relevance had been identified as critical factor in determining the effectiveness of future diary approaches (Pedersen, Kristensson, & Friman, 2012).

The *second article* analyzed how affective forecasts can be influenced by applying a marketing perspective. The aim of the second article was to explore whether advertising measures can influence affective forecasts. It was expected that advertisements that mentioned multiple points in time would increase the salience of lay theories of adaptation

and result in less positive affective forecasts. This hypothesized effect occurred for affective forecasts that were made for the time periods shortly after the purchase and for three months after the purchase for both the low and high involvement products. This research extends the knowledge about lay theories of adaptation by showing that, in addition to the priming of affect progression (Igou, 2004) and the stating of affective forecasts for multiple points in time (Wang et al., 2009), marketing measures that refer to different points in time can also increase the salience of lay theories of adaptation.

In sum, the first two articles showed that affective forecasts in the consumer context can be influenced from both the consumer perspective and the marketing perspective. Based on the relevance of affective forecasting in the consumer context (MacInnes et al., 2005; Pollai et al., 2011), these findings are important for consumer policy decisions and for the design of marketing measures.

The focus of the *third article* was slightly different than that of the first two studies. The main goal of the third article was to better understand the effects of belief in adaptation on affective forecasts. Extending the previous findings of Wang et al. (2009) and Pollai et al. (2010), lay theories of adaptation were analyzed more concretely using a structural equation model that included personal and situational drivers of affective forecasts. Lay theories of adaptation had a substantially negative influence on affective forecasts, which highlights the relevance of lay theories of adaptation in the consumer context. The second aim of the third paper was to investigate the conditions under which lay theories of adaptation are applied. In accordance with the findings of Wang et al. (2009), the perceived variability of the consumption experience reduced belief in adaptation. However, in contrast to Wang et al. (2009), the perceived variability was not manipulated via advertisements; rather, a consumer perspective was adopted. It was found that describing different usage situations also increased the perceived variability of the consumption experience. Considering that

consumers tend to overestimate adaptation processes for material products (Pollai et al., 2010), this is a useful finding that might help consumers make more moderate predictions concerning the progression of consumption-related emotions.

In sum, Articles 1 and 3 showed that it is possible for consumers to attenuate two major sources of biases in affective forecasting that are related to both short- and long-term prediction errors. Future diary techniques are a means to reduce focalism that causes overly positive affective forecasts for the time immediately following the purchase. Thinking about different usage situations is a means of making consumers aware of the variability of the consumption experience, which decreases beliefs in adaptation.

Limitations

Two limitations of these studies should be considered. First, the generalizability of the results is limited across products and participants. Different products with different levels of involvement (Zaichkowsky, 1985) were included to enhance the generalizability of findings. Nevertheless, more research is needed to further explore the influence of the product. There were many other factors in which the products that were included in the studies differed. For example, there were differences regarding the product categories and the monetary values of the products that were not addressed in this research. Moreover, all of the studies examined student samples. Given this restrained subject pool, the generalizability of the findings is limited, and the results could be different for other environments. For example, socio-demographic factors, such as income (Dunn, Gilbert, & Wilson, 2011) and age (Scheibe, Mata, & Carstensen, 2011), could possibly influence affective forecasts for material products.

Second, the studies were scenario-based and did not involve real-world consumption decisions, which limits the external validity of the empirical results. Although experimental studies are a good starting point because of their advantages in terms of internal validity, future research should investigate whether the observed effects also occur for real buying

decisions. Another point that is related to the scenario-based nature of the studies is that only affective forecasts were assessed, and actually experienced emotions were not. It would have been interesting to compare the predicted and experienced emotions. To address these issues, future research could involve field studies.

Theoretical Implications

Despite the aforementioned limitations, this dissertation has several important implications for theory and practice. On the theoretical level, this dissertation contributes to the understanding of affective forecasting in the consumer context. Specifically, this dissertation provides new insights into affective forecasts for material products that have not been systematically examined in the past. As elaborated in Article 1, this is the first research to transfer future diaries to reduce focalism into the consumer context. The technique used was an advancement of a similar approach applied by Wilson et al. (2000). It was shown that contemplating non-focal events via a future diary reduces the impact of a single product on affective forecasts.

In Article 2, it was demonstrated that not only could stating affective forecasts for multiple points in time decrease the predicted enjoyment of a product (Wang et al., 2009) but also that seeing an advertisement that referred to multiple points in time had the same effect. As Wang et al. (2009) noted, making affective forecasts for multiple points in time highlights the course of time, which increases the salience of lay theories of adaptation. The second article demonstrated that even when advertisements highlight the course of time to communicate something valuable to a consumer, these advertisements can simultaneously activate lay theories of adaptation that can ultimately result in less positive affective forecasts.

Finally, Article 3 contributed to a better understanding of the influence of lay theories of adaptation on affective forecasts. To our knowledge, this was the first study to investigate

the importance of lay theories of adaptation in the presence of other drivers of affective forecasting in a structural equation model. Lay theories of adaptation had a substantial effect on affective forecasts. In line with the study of Wang et al. (2009), the perceived variability influenced the degree to which lay theories of adaptation were applied. However, in this study, variability was not manipulated via advertising (Wang et al., 2009); rather, variability was manipulated via thoughts about different usage situations.

Practical Implications

The findings of this dissertation have practical implications for consumer protection organizations and for marketers. From a consumer perspective, this research implies that it is possible to assist consumers with their affective forecasts. Short-term affective forecasts for the time immediately following the purchase are frequently too optimistic (Tanner & Carlson, 2009). However, this impact bias in affective forecasting can be reduced by future diary techniques. Because purchase decisions and financing decisions are influenced by affective forecasts (Pollai et al., 2011), it would be very useful to familiarize consumers with the idea of writing a future diary to prevent them from overestimating the impact of a single product on their future well-being. Concerning the progression of future emotions over time, consumers tend to overestimate adaptation processes (Pollai et al., 2010), which implies that consumers will underestimate the positive emotions that will be caused by a product in the more distant future. Thinking about different usage situations can decrease belief in adaptation and serve as a technique to assist consumers in predicting the progression of emotions over time. In general terms, increased understanding of the formation of affective forecasts may enable consumers to increase their awareness of affective misforecasting in the consumer context.

From a marketing perspective, this research indicates that even minor changes in marketing measures can influence affective forecasts. Marketers should be careful in

designing advertising campaigns that highlight the course of time because such campaigns can activate lay theories of adaptation and result in less positive affective forecasts. Simply mentioning multiple points in time to communicate positive features of a product can result in less positive affective forecasts. Therefore, marketers could miss opportunities to sell their products due to overestimated adaptation processes. Notably, from a marketing perspective, overly optimistic forecasts are also not desirable. If consumers do not experience the expected levels of contentment or happiness with a product, consumer dissatisfaction may occur (Patrick et al., 2007; Phillips & Baumgartner, 2002). It is therefore in the interest of consumers and marketers to improve the accuracy of affective forecasts.

Future Research

I would like to propose two ideas for future research that are closely related to the topics of this dissertation. In the first study, the writing of future diaries drew focus away from the purchase of a new product and reminded people that their future happiness also depended on factors other than consumption. It would be interesting to investigate whether writing a past diary would have a similar effect on affective forecasts. A past diary study could use exactly the same design that was applied in the future diary study. The only difference would be that the consumers would not indicate what activities they would perform some day in the future; rather, they would indicate what activities they had performed at some point in the past. One could assume that past diaries would also draw focus away from the purchase of a product. However, consumers who are affected by an impact bias could expect their life to change because of a new product, and in such situation, thinking about the past would not strongly influence predictions for the future because overoptimistic consumers would envision their future with a new product differently than they would envision their past.

Another interesting topic for future research refers to lay theories of affect progression. Prior research has found that consumers overestimate adaptation processes (Pollai et al., 2010), and the second article demonstrated that advertising can increase this tendency by increasing the salience of lay theories of adaptation. It would be interesting to explore whether advertising can also make theories of continuing affect more salient. Igou (2004) found that descriptions of the progressions of ozone concentrations with graphs that remained constant primed lay theories of continuing affect, which resulted in longer durations of affective forecasts compared to the priming of lay theories of decreasing affect. It is possible that advertisements that portray the constantly positive performance of a product over the course of time could similarly evoke lay theories of continuing affect.

Research on affective forecasting has identified several sources of biases in addition to focalism and lay theories of adaptation (MacInnes et al., 2005; Wilson & Gilbert, 2003), and it seems plausible that these other sources of bias could also influence affective forecasts in the consumer context. For example, advertisements that present a product in an idealized surrounding could influence affective forecasts by changing the way consumers construe the future usage of that product. People frequently imagine only one way in which a future event might occur and neglect to consider that future events may unfold differently than expected (MacInnis et al., 2005). Although people know that the future is uncertain, they fail to consider that their view of the future is a construal rather than an objective representation of reality (Woodzicka & LaFrance, 2001). Therefore, more research is needed to further investigate affective forecasts and sources of biases in the consumer context.

Conclusion

To conclude, the dissertation showed that affective forecasts for material products can be influenced from both the consumer and marketing perspectives. Focalism and lay theories of adaptation are two sources of affective misforecasting that are considered particularly

relevant in the consumer context and were analyzed in three empirical studies. Specifically, it was shown that future diary techniques can reduce focalism in the consumer context and that lay theories of adaptation can be attenuated by thoughts about different usage situations. Moreover, this dissertation indicates that marketing measures can also influence affective forecasting by increasing the salience of lay theories of adaptation. Affective misforecasting leads to suboptimal decisions (Loewenstein & Schkade, 1999) and consumer dissatisfaction (Patrick et al., 2007), which may negatively influence brand loyalty and repeated consumption (MacInnes et al., 2005). Therefore, it is in the interest of both consumers and marketers to understand how affective forecasts are influenced and to ensure that affective forecasts are as accurate as possible.

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Assisting Consumers with Consumption-Related Affective Forecasts:

The Future Diary Technique in the Context of Material Products

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ABSTRACT

When people predict their future feelings, they usually overestimate the impact of single events. The most important explanation for this phenomenon is focalism; i.e., the tendency to think about future events in isolation. Future diary techniques are one approach to reducing focalism. The aim of this study was to test a future diary technique in the context of material consumption. Two hundred eighty-six students participated in a laboratory study. Half of the students engaged in a future diary task that involved describing how much time one would spend on various everyday activities before making an affective forecast. The others answered a filler task. Four different products were tested in a between-subjects design. The participants in the future diary condition made less positive (i.e., more cautious) affective forecasts across the different products. Controlling for situational and individual factors did not alter this pattern of results.

Keywords: Affective forecasting, future diary technique, material consumption

Predictions of one's own future feelings, or so-called affective forecasts (Wilson and Gilbert 2003), are a part of people's everyday lives and play a major role in the consumer context; i.e., consumers who consider spending money on products will also consider how they will feel about the products in the future (MacInnis, Patrick, and Park 2005). However, consumers are not able to foresee the future perfectly. Rather, they must predict their emotions to the best of their abilities based on their present knowledge (Wilson and Gilbert 2005). Tanner and Carlson (2009) conducted several studies in which they found that consumers assume they will behave like in an ideal world when predicting the frequency of exercising on a new treadmill or the number of songs they will download on a new iPod. Consequently, consumers exhibited an increased willingness to pay. Although these authors did not collect information regarding predictions about future emotions, their results show that consumers are too optimistic in their predictions about future usage behavior.

The quality of consumer decisions depends on affective forecasts (Loewenstein and Schkade 1999); therefore, it is critical to understand the manners in which such affective forecasts can be influenced. Specifically, it seems necessary to provide techniques that help consumers consider the future more accurately (Kees 2011). When consumers inaccurately predict their future emotions, they may choose alternatives that do not maximize their happiness (Mellers and McGraw 2001) and thereby experience reduced product satisfaction (MacInnis, Patrick, and Park 2005). The aim of this study was to identify a method to help consumers make cautious affective forecasts. Thus far, research on affective forecasts in the consumer context has dealt with experiences, such as holiday trips or public holidays (e.g., van Boven and Ashworth 2007) and food (e.g., Kahneman and Snell 1992) and with material products, such as shoes (Pollai, Hoelzl, and Possas 2010), digital cameras and iPods (Wang, Novemsky, and Dhar 2009). Assisting consumers in predicting their consumption-related affective forecasts for material products seems especially relevant because material products

may not provide the expected levels of contentment, pleasure, or happiness because, compared to experiences, material possessions are less open to positive reinterpretations, are less meaningful to one's identity, and contribute less to successful social relationships (van Boven and Gilovich 2003). In this study, we analyzed the effects of a specific debiasing technique on affective forecasts for material products.

The most prevalent errors in affective forecasting are people's tendencies to overestimate how intensely they will experience a future feeling and to overestimate the duration over which a future event will affect them; these phenomena are known as impact bias (Wilson and Gilbert 2003). Impact bias has been observed in a variety of populations (i.e., assistant professors, students, sport fans, voters, and driving students) and across a range of emotional events (i.e., tenure decisions, grades, dormitory assignments, football results, national elections, and driver's license exams). For instance, in a study by Buehler and McFarland (2001), students were asked to predict their feelings on Christmas Day three to six weeks before Christmas. Participants predicted that they would feel more positive than they actually did on Christmas. The most important underlying cause of impact bias is focalism; i.e., the tendency to focus only on a specific future event while neglecting other possible influences on future emotions (Wilson and Gilbert 2005; Wilson et al. 2000). When people focus only on one specific future event, such as a football game (Wilson et al. 2000) or Christmas Day (Buehler and McFarland 2001), or on specific aspects of a future event, such as the negative aspects of public transportation (Pedersen, Kristensson, and Friman 2011), they overestimate their affective reactions.

However, there are ways to reduce focalism and make affective forecasts more cautious. One technique consists of encouraging people to focus on relevant past experiences before making an affective forecast (Buehler and McFarland 2001; Morewedge, Gilbert, and Wilson 2005). When forecasting the impact of positive or negative future events, people who

are instructed to "look back" and consider similar past events and the manners in which these events generally made them feel make less extreme affective forecasts compared to people who are instructed to "look ahead" (Buehler and McFarland 2001). Additionally, the priming of concrete thoughts about the future event makes affective forecasts more cautious (Wesp et al. 2009). In two studies, Wesp et al. (2009) found that affective forecasts for future positive events are attenuated by consideration of the details of those events. Affective forecasts of participants who have considered the future event concretely are less positive than those of participants who have only considered the future event abstractly. Affective averaging is another technique that combines the two previously mentioned techniques and consists of thinking about the concrete features of the most recent relevant past experience (Comerford 2011). In a study by Comerford (2011), participants were asked to forecast how they would feel during a bus commute to work. Those participants who were asked to recall a specific moment of the most recent journey to work and indicate whether that episode was average, better than average or worse than average made more accurate affective forecasts.

Diary approaches have been studied as another method of reducing focalism. The common idea underlying these approaches is reminding people that events usually do not occur in isolation. Noting that a focal event will be accompanied by other things that are relevant to future well-being can reduce the impact of a single event on affective forecasts (Ayton, Pott, and Elwakili 2007; Ubel et al. 2001; Wilson et al. 2000). In contrast to techniques that involve recalling relevant past experiences or concrete thinking about the usage of a new product, future diary techniques do not require specific knowledge or experiences of the relevant event. Thus, the future diary technique seems to be the most applicable technique for reducing focalism in the consumer context in which people are frequently confronted with new products or product categories with which they have no prior experience.

Different variations of future diary techniques have been tested, and the resultant findings have been mixed. Wilson et al. (2000) asked college football fans to predict their feelings after their team had won or lost a game. The participants in the experimental group estimated the number of hours they would spend on ten pre-chosen activities (e.g., going to class or eating meals) and then completed questionnaires in which they indicated which activity they would be engaged in during each of the 24 hours a day. The participants in the control group completed a filler task. Next, all participants provided affective forecasts. Wilson et al. (2000) found that the students generally overestimated the influence of the outcome of the game on their future happiness. However, this bias was, to some extent, corrected by engagement in the future diary technique. The effect of the diary technique was mediated by the extent to which the participants believed that they would think about the focal event.

In another application of the diary technique, Ubel et al. (2001) asked participants to estimate the quality of life associated with permanent health conditions (e.g., paraplegia, below-the-knee amputation, and partial blindness). After this first estimation, participants indicated how these conditions would influence different areas of their lives (e.g., their love lives and their family lives) and then reassessed their quality of life estimations. In a second study, these authors tried to highlight the aspects of life that would be unaffected by the health conditions by asking the participants to indicate how different areas of their lives would be affected if they had a permanent health condition. In both studies, thinking about different areas of life failed to decrease the effects of permanent health conditions on quality of life estimations. Ubel et al. (2001) argued that the participants might have focused too intently on the negative effects of a permanent health condition rather than thinking about the aspects of life that would remain unchanged. In a third study, Ubel et al. (2001) employed a more open approach. In this study, participants were asked to list five things that contributed

to their overall happiness that ranged from broad categories to specific activities. This approach resulted in a significant decrease in the quality of life ratings associated with partial blindness but not in those associated with paraplegia. Ubel et al. (2001) suggested that, to be effective, defocusing exercises need to remind people of the areas of life that will be unaffected by the focal event. Therefore, future diary approaches should be based on specific rather than broad categories to avoid leading participants toward thoughts about the factors within the categories that would be affected by the focal event rather than toward the factors that would remain unaffected.

Building on the findings of Ubel et al. (2001), Ayton et al. (2007) investigated another diary approach. These authors hypothesized that low-level defocusing should be more influential on forecasts than high-level defocusing. To test this idea, they asked participants to provide estimations of the happiness levels of one of two hypothetical characters who had either been diagnosed as HIV-positive or had won the lottery. The participants in the high-level defocusing group indicated how much the event (i.e., HIV diagnosis or winning the lottery jackpot) would influence the enjoyment of 18 activities (e.g., eating lunch or going to the cinema) before providing an affective forecast for the hypothetical character. The participants in the low-level defocusing group listened to a recorded description of a typical day in the character's life after the event. This description did not include generic descriptions, such as those included in the high-level condition, but rather depicted a low-level construal of life that also included several activities suggestive of emotions (e.g., meeting an old friend). The low-level defocusing resulted in less extreme forecasts for both events, whereas the high-level diary approach did not influence affective forecasts.

Pedersen, Kristensson, and Friman (2012) found that the completion of a generic future diary was not effective as a defocusing technique for increasing car users' predicted satisfaction with public transport, whereas the completion of a self-relevant future diary was

effective. As in the studies by Wilson et al. (2000), the generic future diary consisted of

estimating the time that would be spent on ten pre-chosen daily activities (e.g., work and

sleep). The self-relevant future diary consisted of listing up to ten self-specific daily activities

and estimating the time that would be spent on those activities.

In sum, the results related to the effectiveness of future diary approaches are mixed.

On the one hand, more concrete and self-relevant future diary techniques seem to be more

effective. On the other hand, the events for which affective forecasts are made seem to

determine the effectiveness of future diary techniques. In the context of major life events

(e.g., becoming paraplegic), future diary approaches have not been found to successfully

counteract focalism in most situations. However, for minor events (e.g., the outcome of a

football game or the use of public transportation), future diary approaches have been shown

to be more successful in reducing focalism. When the consequences of a future event are

limited to specific aspects of life (as is typically the case for product purchases), thoughts

about other areas of life should draw focus away from the product and result in more

moderate affective forecasts. Therefore, we expected that writing a future diary would reduce

focalism within the consumer context and result in more cautious (i.e., less positive) affective

forecasts for material products. To our knowledge, this study is the first to apply a future

diary technique in the consumer context. The present approach builds on the procedure of

Wilson et al. (2000) but includes two major advancements. First, the present approach is

significantly less time-consuming and therefore easier to administer. Second, the present

approach also includes the opportunity for participants to enter individually specific activities

into their diaries. The pre-selected activities were specifically designed to match the

participants' lifestyle and to encourage the participants to think about their future concretely

rather than abstractly.

METHOD

A 2x4 factorial design was applied to investigate the influence of writing a future diary on affective forecasts related to four different material products. The first factor was engagement in a future diary task (experimental group) or in a filler task (control group). The second factor was the product for which the affective forecasts were made. Four different products were tested in a between-subjects design. The dependent variable was the participants' affective forecasts of the emotions they would have if they were to possess one of the products. Baseline emotions, experience in the product category, consumer skepticism, materialism and trait optimism were measured as control variables.

Material

The Future Diary Task

Participants in the experimental condition completed a future diary task in which they stated the types of activities they would perform during an upcoming weekday in the semester. Fifteen pre-chosen activities were included in the future diary task. The activities were matched to the lives of the students and included work time activities (e.g., attending lectures and going to work) and leisure time activities (e.g., meeting friends and going out). Moreover, the participants were able to add two personally relevant activities. The schedule consisted of 12 time slots, each of which represented two hours of the day (for the complete future diary task, see Appendix 1). Participants in the control condition completed a filler task that consisted of solving anagrams.

Products

To explore the general effects of the future diary task, different products were included in the study. The following four products were used: a garden torch, a room scent, a digital camera, and a mountain bike. These products were chosen based on a pretest that indicated there were no major gender differences in the perceptions of these product

categories. Despite this commonality, the products were quite different in several dimensions including product category, value, and involvement. Involvement was also measured in the pretest. Product involvement describes the perceived relevance of a product to a person based on that person's needs, values and interests (Zaichkowsky 1985). In the pretest, garden torches and room scents were identified as low involvement products, whereas digital cameras and mountain bikes were identified as high involvement products. The advertisements displayed these products without additional product information and conveyed similar moods as demonstrated in another pretest.

In the main study, individual involvement with the product category was measured with five items (i.e., important/unimportant (recoded), relevant/irrelevant (recoded), of no concern/of concern to me, boring/interesting, and exciting/unexciting (recoded)) of the involvement scale of Hagendorfer (1992) ($\alpha = .90$).

Affective Forecasts and Consumption-Related Measures

Participants imagined that they would buy the product presented in the advertisement and predicted how they would feel immediately after their purchase. Affective forecasts were measured with items from the contentment and happiness categories of the Consumption Emotions Set (CES) (Laros and Steenkamp 2005). Eleven emotions (i.e., contented, fulfilled, peaceful, optimistic, encouraged, hopeful, happy, pleased, joyful, relieved, and thrilled) were assessed on 5-point scales that ranged from 1 (not at all) to 5 (very strongly). These items formed one factor and were averaged into a single scale ($\alpha = .92$) on which higher values indicated more positive forecasts.

Moreover, it seemed plausible that the future diary would affect the anticipated development of emotions over time. Therefore, participants stated the degree to which they expected their emotions to decline over time. Specifically, they were asked to indicate how intense their emotions would be one week after the purchase, one month after the purchase

and six months after the purchase compared to their emotions immediately after the purchase.

These three items were assessed on 7-point scales that ranged from 1 (much weaker) to 7

(much stronger) with 4 serving as additional anchor (i.e., as strong as immediately after the

purchase).

To ensure the validity of the affective forecasts, additional consumption-related

measures were included. Product attractiveness was measured on a 7-point scale that ranged

from 1 (not attractive at all) to 7 (extremely attractive). The participants also rated how likely

they would be to buy the product and how likely they would be to buy the product in a

situation of limited availability on 7-point scales that ranged from 1 (not likely at all) to 7

(extremely likely). These three variables that measured general product evaluation were

averaged into a single scale (α = .84). Finally, participants indicated how frequently they

would use the product if they were to own it and how much they would be willing to pay for

it in open-end questions.

Situational and Individual Influences

Research has shown that many factors can influence affective forecasts; therefore,

additional measures were included to control for situational and individual differences.

People frequently use their present emotions as a proxy for future emotions, and this

phenomenon is called projection bias or presentism (Gilbert, Gill, and Wilson 2002;

Loewenstein, O'Donoghue, and Rabin 2003). Projection bias also occurs in the context of

material products; for example, projection bias related to the current weather affected

people's purchasing decisions regarding cold-weather apparel and gear (Conlin,

O'Donoghue, and Vogelsang, 2007) and preferences for cold- and warm-weather car types

and housing characteristics (Busse et al. 2012). Therefore, baseline emotions were expected

to serve as a cue regarding the predictions of future emotions in the current study. Baseline

emotions were assessed using the German version of the Positive and Negative Affect

Schedule (PANAS) (Krohne et al. 1996). Ten positive items (e.g., active, interested, and excited) and ten negative items (e.g., distressed, upset, and guilty) were included and assessed on 5-point scales that ranged from 1 (not at all) to 5 (very strongly). These items formed one factor for positive affect ($\alpha = .84$) and one factor for negative affect ($\alpha = .81$).

Prior experience with a product can reflect higher preferences for related products (Tanner and Carlson 2009). Therefore, it seems reasonable that more experienced consumers make more positive affective forecasts. Experience with the product was measured on a 5-point scale (i.e., not at all experienced, minimally experienced, moderately experienced, quite experienced, and extremely experienced).

To control for individual differences that may be relevant in the context of material consumption, consumer skepticism (Obermiller and Spangenberg 1998, 2000), materialism (Richins and Dawson 1992) and trait optimism (Scheier and Carver 1985) were included in the study. Skeptical consumers have doubts about advertising claims; specifically, they do not expect that the product will be as good as depicted in the advertisement (Obermiller and Spangenberg 1998, 2000). Consumer skepticism towards advertising was measured via ratings of nine statements (e.g., 'Advertising is generally truthful') on 5-point scales that ranged from 1 (strongly agree) to 5 (strongly disagree) (Obermiller and Spangenberg 1998). These items formed one factor and were averaged into a single scale ($\alpha = .90$).

Materialistic consumers assign great import to owning and acquiring material goods, and they pursue happiness through the acquisition of products (Richins and Dawson 1992). Materialism was measured with a short version of the Material Values Scale (Richins 2004). This scale consists of nine statements (e.g., 'The things I own say a lot about how well I'm doing in life') that were evaluated on 5-point scales that ranged from 1 (strongly agree) to 5 (strongly disagree). These items formed one factor and were also averaged into a single scale ($\alpha = .84$).

Trait optimism is a general tendency to approach the world positively and to expect good rather than bad things to happen (Scheier and Carver 1985). Optimism and pessimism were measured with the German version of the Life-Orientation Test (Glaesmer et al. 2008). Participants evaluated three statements representing optimism (e.g., 'In uncertain times, I usually expect the best') and three statements representing pessimism (e.g., 'If something can go wrong for me, it will') on 5-point scales that ranged from 1 (very true) to 5 (not true at all). The items formed one factor for optimism (α = .66) and one factor for pessimism (α = .68).

<center>Procedure</center>

The study was performed in November of 2011 at a large German university. Students on the university campus were invited to participate in a study of attitudes toward consumption. Potential participants were offered a chocolate bar and the opportunity to win one of ten 50 € prizes. Those who were interested were accompanied to the laboratory room on campus. Up to seven students could participate in the online-based study at the same time.

Participants were randomly allocated to one of the eight different experimental groups by a computer. They first received a brief introduction and stated their baseline emotions. Next, they were told that the next part of the study would either be about garden torches, room scents, digital cameras, or mountain bikes, and they reported their involvement in their assigned product category. Subsequently, participants were exposed to an advertisement for a product that was representative of their product category. Then, the experimental group worked on the future diary task, and the control group worked on the filler task. Next, all participants reported their affective forecasts and stated the degree to which they expected their emotions to decline over time. Subsequently, they answered the questions about product attractiveness, purchase probability, predicted usage frequency, and willingness to pay. A

question about expertise in the product category concluded the product-related portion of the study.

In the final portion of the study, participants completed the consumer skepticism, materialism and trait optimism scales. Subsequently, they evaluated the advertisement they had seen in terms of idealization and mood and indicated the thoughts and feelings they had during the completion of the future diary or control task; this evaluation was performed to investigate whether the future diary task encouraged the participants to think about their futures more intensely. Participants also provided their gender, age, profession, experience with similar studies, and discretionary income and stated their beliefs about the purpose of the study. At the conclusion of the study, participants were thanked and given the option of providing their email address to participate in the lottery. The debriefing was available online, and the winners of the lottery were contacted via email after completion of the study.

<div align="center">Participants</div>

In total, 286 participants took part in the experiment. The maximum long string procedure was employed to ensure that the participants were paying attention to the questionnaire and to exclude careless responders (Meade and Craig 2012). The PANAS scale and the involvement scale were examined with this procedure. In all, 14 participants were identified as careless responders. Regarding the involvement scale, the participants who answered all five items by checking the same box (despite that fact that some items were inversely coded) were regarded as careless responders. Regarding the PANAS scale, the participants who answered 11 or more consecutive items of the 20 items by checking the same box (despite the fact that the scale included both positive and negative emotions) were regarded as careless responders. In total, 150 of the remaining 272 participants were male (55.15%). The mean age was 23.07 years ($SD = 3.22$). No participant correctly guessed the hypothesis.

RESULTS

Preliminary analyses indicated that the future diary task was perceived to be more stimulating than the filler task ($t(262.05) = 5.31$, $p < .01$, $d = 0.64$; future diary task: $M = 3.78$, $SD = 1.29$; filler task: $M = 2.87$, $SD = 1.53$), which indicated that the future diary task encouraged the participants to think about their futures. Participants used all the activities offered in the future diary and completed it in a realistic manner. All participants indicated that they would sleep and eat at some time ($n = 136$). Other activities, such as attending lectures, were also selected frequently ($n = 130$). Working ($n = 72$) and making music ($n = 29$) were the activities that were selected by the fewest number of participants. Fourteen participants used the open slots for additional individually specific activities (e.g., reading and talking on the phone). Thus, the activities were clearly successfully matched to the daily routines of the participants. Moreover, as depicted in Appendix 2, the time specifications were realistic.

The products and advertisements were also analyzed. The products were evaluated differentially in terms of involvement ($F(3, 268) = 68.48$, $p < .01$, $\eta_p^2 = .43$; garden torch: $M = 2.95$, $SD=1.35$; room scent: $M = 4.55$, $SD = 1.27$; digital camera: $M = 5.55$, $SD = 1.02$; mountain bike: $M = 5.41$, $SD = 1.03$). The advertisements were perceived to be similarly idealized ($F(3, 268) = 2.21$, $p = .09$, $\eta_p^2 = .02$; garden torch: $M = 5.78$, $SD=1.50$; room scent: $M = 5.45$, $SD = 1.63$; digital camera: $M = 5.19$, $SD = 1.39$; mountain bike: $M = 5.68$, $SD = 1.36$) and evoked similarly positive moods with the exception of the mountain bike advertisement, which was evaluated slightly more positively ($F(3, 268) = 2.79$, $p = .04$, $\eta_p^2 = .03$; garden torch: $M = 5.36$, $SD=1.55$; room scent: $M = 5.10$, $SD = 1.54$; digital camera: $M = 5.09$, $SD = 1.20$; mountain bike: $M = 5.68$, $SD = 1.25$).

To examine the validity of the affective forecasts, we examined the correlations of affective forecasts with product evaluations, willingness to pay, and predicted usage

frequencies by computing the correlations within each product category and averaging the

results. The affective forecasts were significantly correlated with product evaluations ($r = .44$,

$p < .01$, range: $r = .34$, $p < .01$ to $r= .49$ $p < .01$) and willingness to pay ($r_S = .26$, $p < .05$,

range: $r_S = .06$, $p =$ n.s. to $r_S = .57$, $p < .01$) but not with predicted usage frequency ($r_S = .18$, p

$=$ n.s., range: $r_S < .01$, $p =$ n.s. to $r_S = .27$, $p < .05$).

To rule out the possibility that the differences in affective forecasts were caused by a

greater amount of deliberation among the future diary group due to the more self-focused

task completed by that group, we compared the times spent on the affective forecasts across

the different conditions. A t-test of the times spent on the affective forecasts between the

experimental ($M = 50.11$, $SD = 28.56$) and control group ($M = 46.28$, $SD = 18.46$) revealed

no significant difference ($t(270) = 1.31$, $p = .19$, $d = 0.16$).

(Insert Table 1 about here.)

Table 1 provides an overview of the variables that were included in the main analysis.

To test our hypothesis, an ANOVA with product and condition as the independent variables

and affective forecast as the dependent variable was performed. The main effect of condition

was significant ($F(1, 264) = 4.41$, $p = .04$, $\eta_p^2 = .02$). Additionally, the main effect of product

was significant ($F(3, 264) = 36.18$, $p < .01$, $\eta_p^2 = .29$). The interaction effect was not

significant ($F(3, 264) = 0.70$, $p = .55$, $\eta_p^2 = .01$). Table 2 shows the affective forecasts for the

different products in the future diary and control conditions.

(Insert Table 2 about here.)

Regarding the main effect of condition, a comparison between the future diary group

($M = 3.10$, $SD = 0.81$) and the control group ($M = 3.27$, $SD = 0.77$) showed that the future

diary group made less positive affective forecasts ($d = 0.22$). Regarding the different

products, the affective forecasts for the garden torch ($M = 2.85$, $SD = 0.80$) and the room

scent ($M = 2.68$, $SD = 0.70$) were lower than those for the digital camera ($M = 3.69$; $SD = 0.58$) and the mountain bike ($M = 3.48$, $SD = 0.62$) across the two conditions.

Although the interaction term was not significant, the differences between the conditions were not equal across the individual products. The effect of condition was marginally significant for the garden torch ($t(62) = -1.35$, $p = .09$ (one-tailed), $d = 0.34$) and significant for the room scent ($t(67) = -1.76$, $p = .04$ (one-tailed), $d = 0.43$). However, for the digital camera there was no significant effect ($t(68) = -0.92$, $p = .18$ (one-tailed), $d = 0.23$) and for the mountain bike there was also no significant effect ($t(67) = 0.01$, $p = .50$ (one-tailed), $d = 0.02$). The overall effect size of the condition ($d = 0.22$) can be classified as small (Cohen 1992). The effect sizes for the garden torch and the room scent were between small and medium, and that for the digital camera was small.

To test the robustness of results, an ANCOVA was performed using affective forecast as the dependent variable, product and condition as the independent variables of interest, and baseline emotion, experience in the product category, consumer skepticism, materialism, optimism, and pessimism as control covariates. Regarding the control variables, the effect of positive baseline emotion was significant ($F(1, 257) = 7.19$, $p < .01$, $\eta_p^2 = .03$). Moreover, the effect of negative baseline emotion was significant ($F(1, 257) = 7.03$, $p = .01$, $\eta_p^2 = .03$). As illustrated in Table 1, the participants who were in a good mood at the time they made their affective forecasts were influenced by their positive emotions and made more positive predictions. Similarly, the participants who were in a bad mood made more negative predictions. In addition to baseline emotions, consumer skepticism influenced the affective forecasts ($F(1, 257) = 4.83$, $p = .03$, $\eta_p^2 = .02$). The less skeptical the participants were with respect to advertising, the more positive were their affective forecasts for the product. There were no significant effects of experience ($F(1, 257) = 3.05$, $p = .08$, $\eta_p^2 = .01$), materialism ($F(1, 257) = 1.52$, $p = .22$, $\eta_p^2 = .01$), optimism ($F(1, 257) = 0.56$, $p = .46$, $\eta_p^2 < .01$), or

pessimism ($F(1, 257) = 0.19$, $p = .67$, $\eta_p^2 < .01$). As above, the main effect of the product was

significant ($F(3, 257) = 29.96$, $p < .01$, $\eta_p^2 = .26$), and the interaction effect was not

significant ($F(3, 257) = 0.87$, $p = .46$, $\eta_p^2 = .01$). Importantly, after controlling for the

additional variables, the main effect of condition remained significant ($F(1, 257) = 5.55$, $p =$

$.02$, $\eta_p^2 = .02$).

To investigate the expected decline in emotions over time, a repeated measures

ANOVA with condition and product as between-subjects factors and time as within-subject

factor was performed. The relative intensities of the product-related emotions one week after

the purchase, one month after the purchase and six months after the purchase were the

dependent variables. There was no significant effect of condition ($F(1, 264) = 0.02$, $p = .89$,

$\eta_p^2 < .01$). However, there was a significant effect of product ($F(3, 264) = 5.70$, $< .01$, $\eta_p^2 =$

$.06$) and a significant effect of time ($F(1, 264) = 477.22$, $p < .01$, $\eta_p^2 = .64$). No interaction

effects were significant. Irrespective of whether the participants completed a future diary,

they expected their emotions to weaken over time. The absolute level of this effect depended

on the product. Participants expected that their emotions one week after the purchase would

be slightly less positive than those immediately after the purchase ($M = 3.68$, $SD = 1.01$).

These declines were larger for the affective forecasts for one month after the purchase ($M =$

2.84, $SD = 1.00$) and six month after the purchase ($M = 2.00$, $SD = 1.15$). These results

suggest that completing the future diary decreased the affective forecasts immediately

following the purchase but did not influence the descending slope of the affective forecasts at

time points further in the future.

DISCUSSION

The aim of this study was to investigate whether affective forecasts concerning

material products could be attenuated with a future diary technique. We expected that the

contemplation of non-focal events would reduce participants' tendencies to focus on the

product and result in more moderate consumption-related affective forecasts. Four different products were included.

In support of our hypothesis, averaged across the studied products, the participants in the future diary condition made less positive (i.e., more cautious) affective forecasts. The future diary manipulation was effective for the garden torch and the room scent. The effect for the digital camera was not significant, but the difference between the experimental and control group occurred in the expected direction. However, the future diary task was clearly ineffective for the mountain bike. The future diary task may have been ineffective for the mountain bike because this product could be used in everyday life and not only on special occasions. A mountain bike can be used to go to work, to go shopping, or to visit family or friends, and such activities were listed in the future diary task. Therefore, the future diary task may have highlighted the multiple situations in which the bike would have been useful and thus neutralized the future diary effect for the bike.

Positive and negative baseline emotions influenced affective forecasts. In accordance with previous research, this result showed that affective forecasts for material products were influenced by projection bias. The more skeptical the participants were, the less positive were their affective forecasts. People who generally believed that advertising tends to promise more than the product can deliver were more careful with their consumption-related forecasts. However, individual differences in materialism, optimism, and pessimism did not influence the affective forecasts.

Some limitations of this study should be considered. The finding that the future diary was more effective for low-involvement products mirrors previous findings in the literature that suggest that diary methods are more effective for minor events than for major events (as outlined in the literature review provided above). However, forecasting errors for high involvement products initially seem to be more consequential. Nevertheless, assisting

consumers in forecasting emotions for low-involvement products is relevant for two reasons. First, most purchases are low involvement purchases; whereas consumers typically buy mountain bikes or digital cameras at intervals of several years, low involvement products are bought more frequently. Therefore, small-stake mispurchases in this category can be expected to accumulate over time to substantially affect consumer well-being. Second, mispurchases of high involvement products may be easier to resolve, because such products can be returned or resold. However, returning or reselling a low-involvement product may be perceived to not be worth the effort. Thus, mispurchases of low-involvement products could result in an increasing number of low involvement possessions that consumers are not satisfied with.

A second limitation of this study is that the participants only reported their affective forecasts and did not report actual product-related emotions. Therefore, the predicted and experienced emotions cannot be compared, and it was not possible to determine whether affective forecasts of the participants in the future diary condition were more accurate or even correct. Based on previous research regarding unrealistically optimistic consumers (Tanner and Carlson 2009), less positive affective forecasts should be more accurate in terms of the actual product-related emotions of consumers.

Finally, the participants did not engage in real buying decisions. They were confronted with a product that they were likely not intending to purchase at that moment, and they were not able to search for product information themselves. Moreover, the products were presented without any competing products. In real-world consumption decisions, comparisons with apparently superior and inferior products likely alter affective forecasts due to framing effects (Dunn, Wilson, and Gilbert 2003). Future research should attempt to extend the current findings to the context of real buying decisions.

Despite these limitations, this study contributes to the understanding of specific strategies for altering affective forecasts. This study revealed that it is possible to help consumers make more cautious affective forecasts by encouraging them to think about different aspects of their everyday life other than consumption. The specific future diary task tested in this study combined the advantages of generic future diary tasks (i.e., being short and easy to administer) and self-relevant future diary tasks (i.e., more effective countering of focalism) by including both pre-selected activities and additional free slots for individually relevant activities. Future research should investigate whether other types of diary techniques are capable of attenuating affective forecasts in the consumer context. For example, it would be interesting to investigate whether the efficacies of past-oriented diary approaches are similar to those of future-oriented diary approaches[1]. On the one hand, one could expect that thinking about past activities would draw focus away from the effect of a new product by highlighting different areas of life that were unaffected by the purchase. On the other hand, people may picture their life with a new product in a completely different manner, which would reduce the effectiveness of past-oriented diary approaches.

The findings of this study have implications that are relevant for marketers and consumers. Marketers could influence affective forecasts for material products by evoking positive emotions at the time of the consumption decision. However, marketers should be aware that overly optimistic forecasts might result in regret if the consumer's experience is not as positive as expected (Simonson 1992; Zeelenberg et al. 1996). Consumers who wish to make good consumption decisions should imagine their future with the product. In terms of consumer protection, it would be useful to familiarize people with the idea of writing a future diary; perhaps future diaries could be provided to consumers (e.g., as an online download). The awareness generated by these future diaries could help consumers avoid focusing on the

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[1] We thank an anonymous reviewer for this suggestion.

effect of a single product and think about all the factors other than consumption that will

determine their future well-being.

APPENDICES

APPENDIX 1

Future Diary Task

We would like you to give us a short illustration of your daily activities. Imagine how an upcoming weekday in this semester might look. What distribution of activities would your schedule typically include?

You can allocate different activities to the different time slots by checking the relevant boxes. If you would like to include additional activities, you can do that in the category "other". Please take your time to work on this task and try to describe your daily routine as precisely as possible.

	0-2	2-4	4-6	6-8	8-10	10-12	12-14	14-16	16-18	18-20	20-22	22-24
Sleeping	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Getting up	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dressing	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Eating	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Attending lectures	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Housekeeping	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Shopping	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Cooking	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sports	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Working	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Playing music	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Family	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Friends	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Parties	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PC, TV, radio	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other: _____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other: _____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

APPENDIX 2

Total Numbers of Entries in the Future Diaries

	0-2	2-4	4-6	6-8	8-10	10-12	12-14	14-16	16-18	18-20	20-22	22-24	Activity chosen at least once
Sleeping	96	**116**	**113**	74	26	3	1	0	0	0	6	39	136
Getting up	0	0	9	**59**	**57**	14	0	0	0	0	0	0	133
Dressing	1	0	7	**52**	**62**	18	4	0	0	3	10	4	133
Eating	0	0	2	33	**55**	23	**52**	27	11	40	33	4	136
Attending lectures	0	0	0	3	54	**96**	**86**	80	68	33	8	1	130
House-keeping	0	0	0	5	9	16	9	19	20	**41**	**28**	2	109
Shopping	0	0	0	0	6	11	10	17	**28**	**43**	20	3	109
Cooking	0	0	0	1	1	2	17	9	13	**49**	**26**	4	100
Sports	0	0	0	6	7	8	4	4	**21**	**43**	**43**	2	98
Working	7	4	3	7	26	**30**	**30**	**36**	**30**	28	19	15	72
Playing music	0	0	0	1	0	2	5	6	**13**	8	**9**	4	29
Family	1	0	0	4	3	1	5	9	17	**41**	**47**	24	77
Friends	12	1	1	1	11	20	29	32	44	**70**	**80**	51	119
Parties	41	28	13	4	0	0	0	1	2	11	**45**	**75**	86
PC, TV, radio	11	2	2	6	13	9	9	6	17	51	**82**	**58**	122

Note: Numbers in bold represent the highest two values in each row.

n = 136

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TABLES

TABLE 1

Overview of the Means, Standard Deviations, Reliabilities, and Correlations

	M	*SD*	1	2	3	4	5	6	7	8
1 Affective forecasts	3.18	0.80	(α=.92)							
2 Positive baseline emotions	2.86	0.64	.20**	(α=.84)						
3 Negative baseline emotions	1.37	0.43	-.12*	-.08	(α=.81)					
4 Experience	2.29	0.97	.23**	.10	.11	-				
5 Consumer skepticism	4.07	0.68	-.11	-.09	-.26**	-.26**	(α=.90)			
6 Materialism	3.08	0.80	.11	-.01	.08	.08	-.24**	(α=.84)		
7 Optimism	3.78	0.75	.07	.25**	-.18**	-.18**	.06	.02	(α=.66)	
8 Pessimism	2.56	0.79	-.06	-.19**	.25**	.25**	-.25**	.23**	-.32**	(α=.68)

Note: *N* = 272

*p < .05; **p < .01

TABLE 2

Affective Forecasts for the Different Products and Conditions

	Future Diary Condition			Control Condition		
	M	*SD*	*n*	*M*	*SD*	*n*
Garden torch	2.72	0.82	32	2.99	0.78	32
Room scent	2.53	0.62	34	2.82	0.75	35
Digital camera	3.63	0.60	35	3.76	0.55	35
Mountain bike	3.49	0.62	35	3.48	0.62	34
Total	3.10	0.81	136	3.27	0.77	136

Are two free services always better than one?

Affective forecasts for products with time-related offers

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Abstract

Purpose - The purpose of this study was to examine whether specific aspects of advertisements can increase consumers' belief in adaptation to a product and influence the intensity of positive consumption-related affective forecasts.

Design/methodology/approach - 178 students participated in a 2x2 between-subjects design (two free service offers that referred to two points in time versus one free service offer that referred to a single point in time x low involvement products versus high involvement products).

Findings - The participants who saw an advertisement with two free service offers that referred to two points in time made significantly less positive affective forecasts than did the participants who saw an advertisement with only one free service offer that referred to a single point in time. Thus, adding an additional free service to a product offer decreased the anticipated positive consumption-related affect. This was the case for affective forecasts shortly after the purchase and three months after the purchase.

Implications - Marketing measures that refer to multiple points in time can activate lay theories of adaptation. This means that companies or retailers might sometimes unintentionally evoke lay theories of decreasing affect by providing additional services.

Originality/value - In the consumer context, affective theories such as the belief in adaptation are highly relevant because they relate to thoughts about the time frame in which the product will be used and enjoyed. The current study shows that additional service offers can weaken the predicted emotional value of a product instead of enhancing consumer acceptance.

Keywords: Consumer behavior, affective forecasting, materialism, lay theories

Predictions about future emotions play an important role in everyday life. Many kinds of decisions—minor ones such as choosing what to eat (Simonson, 1990) and major ones such as where to live (Schkade & Kahneman, 1998)—are influenced by people's expectations about how they will feel as a consequence of their decision (MacInnis, Patrick, & Park, 2005). Such predictions of one's own future feelings are known as affective forecasts (Wilson & Gilbert, 2003). People can use their recalled emotions toward a past event as a basis for the forecast or they can rely on theories about how the event will make them feel (Wilson & Gilbert, 2003).

Both the recall of past emotions and affective theories can be biased (e.g., McFarland, Ross, & DeCourville, 1989; Meyvis, Levav, & Ratner, 2010). A gap between forecasted and experienced affect is termed affective misforecasting (MacInnis et al., 2005; Wilson & Gilbert, 2005). The intensity and duration of future emotions are especially susceptible to affective misforecasting (e.g., Finkenauer, Gallucci, van Dijk, & Pollmann, 2007; Gilbert, Driver-Linn, & Wilson, 2002; Mellers & McGraw, 2001, Wilson & Gilbert, 2003, 2005). In the consumer context, the accuracy of affective forecasts is highly relevant because predicted consumption-related emotions and the discrepancy between predicted and experienced consumption-related emotions influence consumer satisfaction (MacInnis et al., 2005; Phillips & Baumgartner, 2002). Because many products are used not only once but also for a period of time, it is important for consumers to consider their consumption-related emotions over the total lifetime of a product and to take possible changes into account (Pollai, Hoelzl, & Possas, 2010).

Lay theories of adaptation address beliefs about decreasing and continuing affect (Kahneman & Snell, 1992; Snell, Gibbs, Varey, 1995; Ubel, Loewenstein, & Jepson, 2005). The goal of this study was to analyze whether advertising measures can influence consumers' affective forecasts. Based on existing research on lay theories of adaptation (Wang,

Novemsky, & Dhar, 2009), it was expected that advertisements that mention two different points in time would increase the salience of beliefs in adaptation and therefore result in less positive affective forecasts.

Literature Review

When people forecast their future emotions, they frequently rely on theories about how an event will make them feel (Wilson & Gilbert, 2003). For example, consumers believe that "variety is always good" (Ratner, Kahn, & Kahneman, 1999). To accurately predict how a certain event will influence one's future emotional well-being, it is not sufficient to estimate how this event will influence one's life in the first instance; rather, it is necessary to take into account dynamic psychological processes that cause changes in the emotional impact of events (Ubel et al., 2005). People hold specific theories about the dynamics of liking that in some cases do not match the concepts that have been established in experimental psychology. For example, people do believe in classical conditioning and Weber's law and expect adaptation to occur in a wide variety of situations, but they do not believe in cognitive dissonance effects, affective opponent processes (rebound) and mere exposure effects (Snell et al., 1995). Relying on incorrect theories can result in affective misforecasting of the specific emotion someone expects to feel and the intensity and duration of emotions (Wilson & Gilbert, 2003).

In a consumption context, lay theories of adaptation are especially interesting. If consumers believe that they will continue to be excited about a product, they will predict continuing positive emotions over time. In contrast, if consumers believe that they will get used to a new product quickly, they will predict decreasing positive emotions (Pollai et al., 2010). For example, a new car is really pleasant for the first months, and then it turns into something rather normal (Suh, Diener, & Fujita, 1996). This is the case for economy cars as

well as for luxury cars, but people predict that driving a luxury car will make them feel better

(Schwarz & Xu, 2011).

       If consumers rely on inaccurate lay theories about affect progression, their affective

forecasts will be inaccurate (MacInnes et al., 2005). Prior research in the consumption

context has found that consumers have difficulties predicting adaptation processes.

Kahneman and Snell (1992) investigated consumers' ability to predict a change in liking of

ice cream and yogurt. Participants had to predict their enjoyment of eating the ice cream or

the yoghurt for a period of several days. These predictions were compared to their actual

liking when they tasted the ice cream or the yoghurt. Participants predicted a decline in

liking. However, the actual decrease in liking of the ice cream was smaller than predicted,

and the actual liking of the yoghurt even increased over time, which shows that people were

not able to correctly predict changes in liking (Kahneman & Snell, 1992). Pollai et al. (2010)

investigated the influence of lay theories of adaptation on the accuracy of affective forecasts

that involved shoes. Consumers predicted a decline of positive consumption-related

emotions, and their positive emotions actually declined over time. However, consumers

overestimated the magnitude of this decline, which was linked to an overestimation of

adaptation to the shoes. Furthermore, participants misremembered their predictions as more

consistent with their actual experienced emotions, which may prevent learning from the

prediction error (Pollai et al., 2010).

       Whether people rely on lay theories of continuity or progression of affect depends on

the accessibility of these theories. In two studies by Igou (2004), people were subtly primed

with a lay theory of either continuing affect or decreasing affect before stating their affective

forecast. In Study 1, the participants were primed by matching the content of poems to

pictures. The poems and pictures were pretested to symbolize either continuity or decrease. In

the second ostensibly unrelated part of this study, the participants indicated the duration and

progression of their affective response about a vacation. In Study 2, the participants were

primed by describing progressions of ozone concentrations in their own words. The graphs

were either continuously falling or staying constant during several weeks. Then, they

predicted the duration and progression of their affective response about a poor performance

in a test. In both studies, the forecasters predicted a longer duration of affective responses

when they were primed with a lay theory of continuing affect and a shorter duration of affect

when they were primed with a lay theory of decreasing affect.

Wang et al. (2009) found that one way of making a lay theory of decreasing affect

salient is to require predictions of product enjoyment at both near and distant future points.

They analyzed predictions of enjoyment for products such as cars, digital cameras, and iPods

and showed that making predictions for different points in time cued beliefs in adaptation.

This resulted in adjustments of the predicted enjoyment, but making a prediction for a single

point in time did not lead to any adjustments (Wang et al., 2009).

For long-term affective forecasts, the category of material products (i.e., tangible non-

food products) is specifically relevant because material products are used not only once but

for a period of time. It makes sense to differentiate between various product types when

analyzing affective forecasts because affective forecasts can be expected to be more or less

positive depending on the product type (e.g., a new car will contribute more strongly to future

well-being than will a new garden torch). Product involvement describes the perceived

relevance of a product based on people's needs, values and interests (Zaichkowsky, 1985). It

is one of the major psychological determinants for whether consumers engage in extensive or

limited decision-making (Howard & Sheth, 1969; Kirchler, Rodler, Hoelzl, & Meier, 2001).

Involvement has been found to influence how consumers react to marketing measures, for

example comparative advertising (Soscia, Girolamo, & Busacca, 2010) or price rebates

(Hunt, Keaveney, & Lee, 1995).

The hypothesis of the current research was that marketing measures that refer to multiple points in time could activate lay theories of adaptation for material products. Advertisements frequently mention different points in time, for example, to illustrate the long-term benefits of beauty products. Other companies use multiple warranties in their advertisements to enhance the perceived persisting value of their products. For example, Toshiba provides additional warranties, which is illustrated in an advertisement with two separate stickers: "12 compressor warranty years" and "13 motor warranty years" (Toshiba, 2013). However, companies or retailers might sometimes unintentionally evoke lay theories of decreasing affect by using advertisements that refer to multiple points in the future. Building on the findings of Wang et al. (2009), it was expected that advertisements that mention two free services that refer to various points in time instead of one free service that refers to a single point in time would make theories of adaptation salient and therefore result in less positive consumption-related affective forecasts. Thus, providing additional services to enhance consumer acceptance would actually weaken the perceived emotional benefit of a product.

Method

A 2x2 factorial design was applied to investigate the influence of advertisement design and product involvement on affective forecasts concerning material consumption. The first factor varied whether the advertisement referred to multiple points in time (one year from now and two years from now) or to a single point in time (two years from now). The second factor varied whether the product was a low involvement product or a high involvement product. The dependent variables were the participants' affective forecasts about their feelings shortly after the purchase and three months after the purchase. This means that the affective forecasts were stated for some point in time before the service coupon(s) could be redeemed in all conditions. We did this to make sure that we would measure the affective

forecasts that concerned the products and not some effects of the coupons. The participants'

baseline emotions, experience in the product category, materialism, and consumer skepticism

were included as possible control variables.

Material

The participants in the experimental condition saw an advertisement for a specific

product, which depicted the product itself, and a sticker that promised a free service after one

year and another free service after two years. The participants in the control task saw exactly

the same advertisement, but the sticker did not mention the free service after one year but

only the free service after two years. The services were an inspection or a cleaning.

The products that were depicted in the advertisements were either low involvement

products or high involvement products. In a pretest, various products had been tested for

involvement. Indoor fireplaces and carpets had been identified as low involvement products,

and cars and mountain bikes had been identified as high involvement products. These four

products are largely gender-neutral, and the pretest revealed the products to have an

emotional appeal. In the main study, individual involvement with the product category was

measured with five items of the semantic involvement scale of Hagendorfer (1992) on a 7-

point scale. The items (important/ unimportant (recoded), relevant/ irrelevant (recoded), of no

concern/ of concern to me, boring/ interesting, exciting/ unexciting (recoded)) formed one

factor ($\alpha = .88$).

Affective forecasts for the time shortly after the purchase and three months after the

purchase were measured with the contentment and happiness categories of the consumption

emotions set (CES) on a 5-point scale from 1 (not at all) to 5 (very strongly) (Laros &

Steenkamp, 2005). The items (e.g., contented, happy, or joyful) formed single factors both

for the time shortly after the purchase ($\alpha = .94$) and for the time three months after the

purchase ($\alpha = .93$). The following consumption-related measures were included to ensure that

the affective forecasts had some validity. Product attractiveness was evaluated on a 7-point scale from 1 (not attractive at all) to 7 (extremely attractive). Purchase likelihood and purchase likelihood under supply difficulties were measured on 7-point scales from 1 (not likely at all) to 7 (extremely likely). These three items were integrated into a single scale that measured a general product evaluation ($\alpha = .85$). Moreover, the predicted usage frequency and willingness to pay were assessed in an open format.

Situational and individual factors that could influence affective forecasts in the consumer context were also included. Current emotions at the time the forecast is made are frequently used as an anchor for affective forecasts (Conlin, O'Donoghue, & Vogelsang, 2007; Loewenstein, O'Donoghue, & Rabin, 2003). Therefore, the participants' baseline emotions were assessed with the German version of the Positive and Negative Affect Schedule (PANAS) on a 5-point scale from 1 (not at all) to 5 (very strongly) (Krohne, Egloff, Kohlmann, & Tausch, 1996). The positive items (e.g., active, interested, or excited) and the negative items (e.g., distressed, upset, or guilty) each formed one factor (positive affect: $\alpha = .87$; negative affect: $\alpha = .88$). Prior experience with the product category can indicate a higher preference for this product category (Tanner & Carlson, 2009), which might increase affective forecasts. Therefore, prior experience was measured on a 5-point scale (not at all experienced, hardly experienced, moderately experienced, quite experienced, or extremely experienced). Consumer skepticism towards advertising is a general tendency to doubt advertising claims (Obermiller & Spangenberg, 1998, 2000), which might decrease affective forecasts for products that are presented in an advertisement. Therefore, consumer skepticism was measured with the scale of Obermiller and Spangenberg (1998) on a 5-point scale from 1 (strongly agree) to 5 (strongly disagree). The items (e.g., "Advertising is generally truthful") formed one factor ($\alpha = .86$). Materialism reflects the importance that the acquisition and possession of products have for a person's well-being (Richins & Dawson, 1992) and might

increase affective forecasts for material products. Therefore, materialism was measured with a short version of the material value scale on a 5-point scale from 1 (strongly agree) to 5 (strongly disagree) (Richins, 2004). All of the nine items (e.g., "The things I own say a lot about how well I'm doing in life") formed one factor ($\alpha = .82$).

Procedure

The study was conducted online in April 2012. Students of a large German university were invited via email to participate in a study on consumer behavior. They were randomly allocated to one of eight experimental groups. They first received a brief introduction and stated their baseline emotions. Then, they saw an advertisement for one of the four products, which either included a free service after one year and a second free service after two years (experimental group) or included only one free service after two years (control group). After seeing the advertisement, all the participants were asked to imagine that they would decide to buy the product and state their affective forecasts for their emotions shortly after the purchase and for their emotions three months after the purchase. They also answered the additional consumption-related questions. Next, the participants filled out the scales for consumer skepticism and materialism. In the last part of the study, control measures that referred to the advertisements and some demographics were assessed. Moreover, the participants indicated what they thought about the purpose of the study. Finally, they were thanked and could type in their email address to participate in a lottery to win one of ten 50€ prizes. The debriefing was available online, and the winners of the lottery were contacted via email after the study had been completed.

Participants

In total, 178 students participated in the study. Eight participants were excluded from the analyses. One participant obviously rushed through the questions and needed only two minutes to complete the study. Five participants needed more than 40 minutes to complete

the study. Therefore, it was assumed that they had been doing other things at the same time or took a break during the experiment. Finally, two participants correctly guessed that the hypothesis had something to do with affective forecasting. Of the 170 remaining participants, 48 were male (28.2%). The mean age was $M = 23.23$ years ($SD = 2.66$).

Results

Preliminary analyses were conducted to ensure there were no differences in the general appeal of the advertisements that were used. The t-tests revealed that there were no significant differences between the experimental and control conditions in the evaluations of the advertisements for idealization or mood across the four products (all $p > .35$).

The products were evaluated differently in terms of involvement, $F(3, 166) = 12.06$, $p < .01$, $\eta_p^2 = 0.18$ (indoor fireplace: $M = 3.75$, $SD = 1.42$; carpet: $M = 3.29$, $SD = 1.25$; car: $M = 4.45$, $SD = 1.51$; mountain bike: $M = 4.88$, $SD = 1.16$). A post hoc test revealed that the indoor fireplace and the carpet were similar to each other and different from the car and the mountain bike, which were similar to each other. Therefore, the four products were aggregated to two product categories: low involvement and high involvement products.

Affective forecasts were significantly correlated with product evaluations for the high involvement products ($r = .26$, $p < .01$) and for the low involvement products ($r = .55$, $p < .01$). Building on this finding, affective forecasts appeared to have sufficient validity.

(Table 1 about here.)

Table 1 gives an overview of the means, standard deviations, reliabilities, and correlations in the main analysis. First, a repeated-measures ANOVA with condition (control: one point in time mentioned, experimental: two points in time mentioned) and involvement (low involvement, high involvement) as between-subject factors and time (shortly after the purchase, three months after the purchase) as within-subject factors was run. Affective

forecasts for the time shortly after the purchase and three months after the purchase served as dependent variables.

The main effects of condition, $F(1, 166) = 7.87$, $p < .01$, $\eta_p^2 = 0.05$, and involvement, $F(1, 166) = 33.14$, $p < .01$, $\eta_p^2 = 0.17$, were significant. The main effect of time was also significant, $F(1, 166) = 243.92$, $p < .01$, $\eta_p^2 = 0.60$. Only time and involvement showed a significant interaction effect, $F(1, 166) = 10.50$, $p < .01$, $\eta_p^2 = 0.06$. Neither the interaction of condition and involvement, $F(1, 166) = 0.09$, $p = .77$, $\eta_p^2 < 0.01$, nor the interaction of condition and time, $F(1, 166) = 0.04$, $p = .85$, $\eta_p^2 < 0.01$, or condition, involvement and time, $F(1, 166) = 0.01$, $p = 0.91$, $\eta_p^2 < 0.01$, were significant. Table 2 illustrates the results. The effect sizes can be classified as small to medium for the effect of condition, medium for the interaction of time and involvement, and large for the effects of involvement and time (Cohen, 1988).

(Table 2 about here.)

Overall, the participants in the experimental group made less positive forecasts ($M = 2.90$, $SD = 0.70$) than did the participants in the control group ($M = 3.16$, $SD = 0.73$). Adding an additional free service to a product offer thus decreased participants' consumption-related affective forecasts.

Forecasts for the high involvement products were generally more positive ($M = 3.30$, $SD = 0.51$) compared to forecasts for low involvement products ($M = 2.73$, $SD = 0.80$). Not surprisingly, the idea of owning a highly interesting and relevant product in the future resulted in more positive predictions of future consumption-related emotions.

The main effect of time indicated that the participants' forecasts of their feelings three months after the purchase ($M = 2.69$, $SD = 0.71$) were less positive than were the forecasts of their feelings shortly after the purchase ($M = 3.37$, $SD = 0.85$). This shows that the participants expected to adapt to the product.

To investigate the interaction of time and involvement, the differences between the two forecasts were analyzed for the low and high involvement products. The decrease in forecasted emotions was significant for the low involvement products, $t(81) = 9.28$, $p < .01$, $d = 0.63$, and for the high involvement products, $t(87) = 12.90$, $p < .01$, $d = 1.39$. However, the decrease was smaller for the low involvement products (shortly after purchase: $M = 3.00$, $SD = 0.93$; three months after purchase: $M = 2.46$, $SD = 0.76$) than for the high involvement products (shortly after purchase: $M = 3.71$, $SD = 0.58$; three months after purchase: $M = 2.89$, $SD = 0.59$).

Participants' positive baseline emotions, experience with the product category and materialism correlated with their affective forecasts. Therefore, another repeated-measures ANOVA that included these covariates was run. The effect of positive baseline emotions was significant, $F(1, 163) = 11.43$, $p < .01$, $\eta_p^2 = 0.07$, as was the effect of materialism, $F(1, 163) = 4.56$, $p = .03$, $\eta_p^2 = 0.03$. The effect of experience was not significant, $F(1, 163) = 0.32$, $p = .58$, $\eta_p^2 < 0.01$. Including those variables did not change the overall pattern of the results: the effect of condition was still significant, $F(1, 163) = 7.34$, $p < .01$, $\eta_p^2 = 0.04$, as were the effects of involvement, $F(1, 163) = 37.97$, $p < .01$, $\eta_p^2 = 0.19$, and time, $F(1, 163) = 4.57$, $p = .03$, $\eta_p^2 = 0.03$. Again, the only significant interaction was the interaction of time and involvement, $F(1, 163) = 8.33$, $p < .01$, $\eta_p^2 = 0.05$.

Discussion

The aim of this study was to investigate whether advertising measures can influence affective forecasts for material products. Based on existing research on lay theories of adaptation, it was expected that mentioning multiple points in time would result in a decrease in positive consumption-related affective forecasts. Consistent with this hypothesis, advertisements that offered two free services for two points in time resulted in less positive affective forecasts than did the same advertisements that offered only one free service at a

single point in time. The effect occurred for affective forecasts at the time shortly after the purchase and for affective forecasts for three months after the purchase. The results generalize across low involvement and high involvement products.

Some limitations of the current studies should be considered. Building on theoretical background, this study argues that the decrease in positive consumption-related emotions was due to more salient beliefs in adaptation. However, belief in adaptation was not measured directly in this study. Future research could try to include measures for belief in adaptation to strengthen our argument. Second, the study was conducted with a student sample in the lab, which implies that the participants did not engage in an actual buying decision. Moreover, affective forecasts and actually experienced emotions could not be compared to each other because the study was scenario based. Therefore, further research is needed to explore the effects of advertisements that refer to multiple points in time in a more realistic setting. Finally, one should keep in mind that drawing attention to duration will not always cue beliefs in adaptation. Whether people believe they will adapt to a product also depends on the perceived variation in the consumption experience, which can already be influenced by subtle changes in product descriptions (Wang et al., 2009).

Despite these limitations, the study makes an important contribution to research on affective forecasting and lay theories of adaptation. It shows that not only stating two affective forecasts for multiple points in time (Wang et al., 2009) but also being confronted with multiple points in time via advertising can result in less positive affective forecasts. What is meant to highlight positive features of a product over time may actually result in less positive affective forecasts.

The findings of this study have important implications for marketers and consumers. From a marketing perspective, influencing the affective theories of consumers is practical because durable products should be associated with beliefs of little adaptation and continued

enjoyment, and non-durable products should be associated with beliefs of rapid adaptation, which make product replacement necessary. However, as this research notes, one should be aware of the risk that marketing measures could influence affective forecasts in an undesirable direction. The non-intuitive finding that adding an additional free service to a product offer decreases positive consumption-related forecasts questions marketing measures that refer to multiple points in time. Even if multiple points in time are mentioned to communicate positive features of a product such as longevity, extended warranties, or favorable financing options, they might at the same time activate lay theories of adaptation and result in less positive affective forecasts. One should keep in mind that activating lay theories of adaptation could influence not only the buying decision itself, but also decisions among product alternatives with different warranties, or decisions about product insurance. From a consumer perspective, being aware of such effects is relevant for making informed decisions about products and about additional offers such as product insurance or in-store credit.

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Tables

Table 1

Overview of Means, Standard Deviations, Reliabilities, and Correlations

	M	*SD*	1	2	3	4	5	6	7
1 Affective forecast shortly after purchase	3.37	0.85	(α=.94)						
2 Affective forecast 3 months after purchase	2.69	0.71	.74**	(α=.93)					
3 Positive baseline emotions	2.63	0.69	.19*	.24**	(α=.87)				
4 Negative baseline emotions	1.56	0.64	.04	.12	-.03	(α=.88)			
5 Experience	2.15	0.87	.16*	.09	.18*	.03	-		
6 Consumer skepticism	4.21	0.56	-.11	-.10	-.28**	-.16*	-.14	(α=.86)	
7 Materialism	3.07	0.71	.16*	.15*	.12	.05	.17*	-.26**	(α=.82)

Note. $^{*}p < .05$, $^{**}p < .01$

Table 2

Affective Forecasts for High and Low Involvement Products and Both Conditions for the
Time Shortly After the Purchase and Three Months After the Purchase

	Control group		Experimental group		Total	
	M	*SD*	*M*	*SD*	*M*	*SD*
Low involvement						
Shortly after the purchase	3.15	0.98	2.84	0.86	3.00	0.93
Three months after the purchase	2.61	0.80	2.31	0.69	2.46	0.76
High involvement						
Shortly after the purchase	3.85	0.47	3.58	0.65	3.71	0.58
Three months after the purchase	3.02	0.56	2.78	0.60	2.89	0.59
Total	3.16	0.73	2.90	0.70	3.03	0.72

The Effects of Lay Theories of Adaptation on Affective Forecasts for Material Products

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Abstract

Consumers rely on their predicted emotions concerning a product when making purchase decisions. Such predictions are known as affective forecasts and can be influenced by many different factors. In particular, previous research indicates that affective forecasts are negatively related to lay theories of adaptation. The aim of the current study was twofold. On the one hand, the relationship of lay theories of adaptation and affective forecasts was analyzed more closely by using a structural equation model that also included situational and personal influences. On the other hand, the possibility of influencing lay theories of adaptation by manipulating the perceived variability of the consumption experience was explored. A scenario-based online study with 251 female students was conducted to test the hypothesized relationships. Participants described three different usage situations, three similar usage situations, or no usage situations before making an affective forecast for a pair of shoes. They stated their forecasts for a time period of either two weeks or four weeks after the purchase. Affective forecasts were strongly influenced by lay theories of adaptation. Thinking about different usage situations increased the perceived variability of the consumption experience, which in turn decreased lay theories of adaptation. Limitations and future research questions are discussed before concluding with implications for theory and practice.

1. Introduction

Imagine you want to buy a new product. What factors will influence your considerations? Emotions are one factor that will most likely play an important role (Bagozzi, Gopinath, and Nyer 1999). Especially, the anticipated pleasure or satisfaction that different alternatives may offer serves as a basis for consumer decision making (MacInnis, Patrick, and Park 2005). For example, empirical studies have shown the influence of anticipated regret (Simonson 1992; Zeelenberg, Beattie, van der Pligt, and de Vries 1996) and anticipated pleasure (Mellers and McGraw 2001).

Predictions of one's own future emotions are termed affective forecasts (Wilson and Gilbert 2003). Mispredictions of consumption-related emotions can result in choices that do not maximize future happiness (Mellers and MacGraw 2001; Wilson and Gilbert 2005) and can actually decrease product satisfaction (Patrick, MacInnis, and Park 2007; Phillips and Baumgartner 2002). It is generally quite difficult to accurately forecast future emotions, and previous research has identified different sources of affective misforecasting such as misconstruals of the event, framing effects, biased recall of similar past events or the failure to correct for unique influences of the situation (Wilson and Gilbert 2003). For experiences that extend over time, such as owning a new product, accurate affective forecasts are even more difficult because consumers have to predict the development of their consumption-related emotions over time.

The aim of this paper was to obtain a better understanding of the underlying mechanisms that influence affective forecasts for material products. Specifically, this study was built on research by Pollai, Hoelzl, and Possas (2010), who investigated affective forecasts for shoes. Their results showed that people overestimated the decline of positive consumption-related emotions, and this prediction bias was correlated with the degree to which people relied on lay theories of adaptation. They concluded that future research should

attempt to enrich theoretical explanations about affective forecasts by the following aspects: the specific type of lay theories that consumers hold should be analyzed, the conditions under which these theories are applied should be investigated, and other factors such as product involvement should be considered (Pollai et al. 2010). This study aims at providing new insights concerning these points. The influence of lay theories of adaptation on affective forecasts was analyzed in the presence of situational and personal influences, and the possibility of influencing lay theories of adaptation by manipulating the perceived variability of the consumption experience was also investigated. As in the study by Pollai et al. (2010), shoes were selected as the product for which affective forecasts had to be stated because shoes have a hedonic value (Voss, Spangenberg, and Grohmann 2003). This makes affective forecasting especially relevant because attention is focused on the self and on personal emotions (Patrick et al. 2007). The organization of the paper is as follows: First, the literature upon which the hypotheses are constructed is presented. Then, the methodology of the present research is outlined. Finally, the results are presented, followed by a discussion including implications, limitations, and directions for future research.

2. Hypotheses development

People hold lay theories about their emotions (Wilson and Gilbert 2003). Many of these so-called intuitive theories of hedonics (Snell, Gibbs, and Varey 1995) address the emotional consequences of single events, but there are also intuitive theories explaining the impact of experiences that persist over time, such as theories of adaptation versus theories of sensitization (Loewenstein and Schkade 1999). In affective forecasting, intuitive theories can serve as a basis for predicting the long-term impact of events on one's future well-being, for example, concerning the emotional impact of wonderful vacations or bad exam results (Igou 2004). Prediction errors are caused by relying on inaccurate intuitive theories about affect progression, over-applying these theories, and neglecting boundary conditions that limit the

applicability of a particular intuitive theory (Gilbert, Pinel, Wilson, Blumberg, and Wheatley 1998).

Research in the consumer context indicates that people expect to adapt to material products. That makes sense because many products wear off over time and lose some of their primary value. Pollai et al. (2010) asked people who had just bought a pair of shoes to predict their consumption-related emotions for the time period of two weeks or four weeks after the purchase. Affective forecasts for the pair of shoes were less positive for the time four weeks after the purchase compared to the time two weeks after the purchase. Thus,

H_1: Consumption related affective forecasts will be less positive the more distant the timing of the affective forecast.

However, consumers frequently over-apply lay theories of adaptation. For example, people overestimate adaptation to food. In a study by Kahneman and Snell (1992), participants predicted that their liking of ice cream or yogurt would decrease if they consumed it for a period of several days. However, comparing their predictions to the actual enjoyment they experienced eating the ice cream or the yogurt revealed that the actual decrease in liking of the ice cream was smaller than predicted, and the actual liking of the yogurt even increased over time. In the study on shoes by Pollai et al. (2010), experienced emotions did decrease over time but not as much as predicted. In the first questionnaire of that study, a measure for belief in adaptation was included. Respondents indicated the degree to which they expected that they would get used to the shoes. The overestimation of the decline in positive consumption-related emotions was linked to an overestimation of adaptation to the shoes. Based on these results, it was expected that

H_2: Belief in adaptation decreases positive consumption-related affective forecasts.

People seek variety when making product choices for three types of reasons: a) external factors, b) future preference uncertainty and c) satiation or stimulation (Kahn 1995).

External factors refer to changes in the marketing mix such as price or place that can make consumers switch to another brand or product category. Uncertainty about future preferences can also cause variety seeking: Consumers who make a consumption decision concerning several products may prefer a varied portfolio to increase the likelihood that one of the options will fulfill their future needs. Finally, satiation or stimulation refers to an internal need for variety so that the consumption experience remains diversified and not dull (Kahn 1995). Whereas research on variety seeking typically examines multiple choices for several products (e.g., Ratner, Kahn, and Kahneman 1999; Simonson 1990), it seems quite reasonable that the factor of satiation or stimulation also applies to single products. The perceived variability of a consumption experience, i.e., the degree to which people expect variety within the usage of a single product (Wang, Novemsky, and Dhar 2009), should therefore increase consumption-related affective forecasts. Thus,

H$_3$: Perceived variability of the consumption experience increases positive consumption-related affective forecasts.

Wang et al. (2009) explored the link between the perceived variability and theories of adaptation. They conducted an experiment in which they activated beliefs in adaptation by asking for affective forecasts for two distinct points in the future (one week / two years). The product for which the affective forecast should be stated was an iPod Nano. The perceived variability of using the iPod was manipulated by the product description that either mentioned that one could store hundreds of songs by one's favorite artist (low variability) or by numerous artists (high variability). Whereas low variability resulted in a significant decrease in the predicted enjoyment of the iPod one week after the purchase compared to two years after the purchase, no such difference was found for high variability. Wang et al. (2009) conclude that whether people believe in adaptation depends on the perceived variability of the consumption experience. Thus,

H_4: Perceived variability decreases belief in adaptation.

It was expected that the perceived variability of a consumption experience could be influenced by marketing measures and also by consumers themselves. Because consumers overestimate adaptation processes (Pollai et al. 2010), providing them with a technique that increases the perceived variability of the consumption experience is helpful for generating a more moderate belief in adaptation. Thinking about different usage situations should influence the perceived variability of the consumption experience in a similar way as different product descriptions do (Wang et al. 2009). Thus,

H_5: Thinking about different usage situations increases the perceived variability of the consumption experience.

Affective forecasts can be influenced by different situational and individual factors. Building on previous research, some factors were included to obtain a better understanding of how lay theories of adaptation contribute to affective forecasts in the presence of situational and individual influences.

The intensity of affective forecasts depends at least to some extent on the self-relevance of the forecasted event. The results of Hartnett and Skowronski (2008) suggest that the more important an event is to someone, the more difficult it is to make an accurate affective forecast for this event. In the context of material consumption, materialism is a construct that is well-suited to indicate self-relevance (Hartnett and Skowronski 2008). Materialism is defined as the pursuit of happiness through the acquisition of possessions; the evaluation of success and self-meaning of materialists is based on these possessions (Richins and Dawson 1992). For materialists, the value of a product exceeds its actual physical properties because the product has an additional meaning to them (Kasser 2002). Hartnett and Skowronski (2008) found that negative events that were self-relevant (monetary loss to a materialist and interpersonal difficulties to a non-materialist) resulted in more negativity in

affective forecasts than non-self-relevant events did (i.e., monetary losses to non-materialists and interpersonal difficulties to materialists). This result implies that materialists will overestimate the extent to which possessions will influence their future happiness (Hartnett and Skowronski 2008). Thus,

H$_6$: Materialism increases positive consumption-related affective forecasts.

Next to materialism, involvement is another construct that may determine self-relevance of events in the consumer context. It is defined as the perceived relevance of a product based on a person's needs, values and interests (Zaichkowsky 1985). Involvement can influence search behavior, information processing and persuasion (Andrews, Durvasula, and Akhter 1990). It was expected that involvement would – similarly to materialism – also increase positive affective forecasts in the consumer context. Thus,

H$_7$: Involvement increases positive consumption-related affective forecasts.

Although individuals may differ in their involvement towards a product, involvement is frequently considered a category specific phenomenon for which different product categories are assumed to arouse different levels of involvement (e.g., O'Cass 2004; Warrington and Shim 2000). Past research has shown that fashion is generally seen as a high-involvement product class (Naderi 2013) and that materialism and fashion involvement are connected to each other. Clothing is one way to show others one's achievements in terms of status and success, which is important to materialists (Cass 2001). Therefore, higher materialism leads to higher involvement in clothing (Browne and Kaldenberg 1997; Cass 2001; Hourigan and Bougoure 2012). This connection of materialism and involvement in the context of clothing should also hold in the context of shoes. Thus,

H$_8$: Materialism increases involvement.

Affective forecasts depend on the ability to project oneself into the future (Gilbert, Gill, and Wilson 2002). However, research on projection bias suggests that people frequently

fail to forecast the future perfectly. They are influenced by their present emotions or preferences, which they use as a proxy for the future (Loewenstein, O'Donoghue, and Rabin 2003). For example, Conlin, O'Donoghue, and Vogelsang (2007) found evidence for the projection bias with respect to the weather. They found that purchases of weather-related clothing and sports equipment were over-influenced by the weather at the time the purchase decision was made; this resulted in increased return rates as a consequence of changes in the weather. Similarly, Busse, Pope, Pope, and Silva-Risso (2012) found that the choices to purchase a specific type of car (e.g., a convertible) or to pay for weather-related features of a house (e.g., a swimming pool) are highly dependent on the weather at the time of purchase. Similarly, positive baseline emotions were expected to serve as a proxy for consumption related forecasts in this study. Thus,

H_9: Positive baseline emotions increase positive consumption-related affective forecasts.

Figure 1 illustrates the conceptual framework for the proposed hypotheses.

(Figure 1 about here.)

3. Methodology

3.1. Design and respondents

The data for this study were collected in an online-based experimental study in summer 2013. Students of a large German university were contacted via email and invited to participate in a study on shoes. Because the questions were specifically designed about women's shoes, students were told they could participate only if they were female.

At the beginning of the study, participants were asked to describe a pair of casual shoes – anything between sports shoes to high heels – irrespective of whether these shoes were actually for sale or just existed in their minds. They were told that the only thing that mattered was that they should like the shoes very much.

Participants thought about different, similar or no usage situations before stating their affective forecast: Participants in the experimental conditions were asked to describe a situation in which they could wear the shoes. In experimental group 1, participants were then asked to describe two additional usage situations that should differ from the first one as well as from each other as much as possible. In experimental group 2, participants were asked to describe two additional usage situations that should be as similar as possible to the first one and that should also be as similar as possible to each other. Participants in the control group did not describe any usage situations. The first experimental group, who thought about different usage situations, was of primary interest for investigating H_5. The second experimental group, who thought about similar usage situations, was included to investigate whether the expected effect of the manipulation was actually caused by thinking of different usage situations or by thinking about using the product in general. The same temporal distance for the affective forecasts was used as in the study by Pollai et al. (2010) (i.e., participants predicted their consumption-related emotions for the time period of two weeks or four weeks after the purchase).

As gratification, participants could type in their email address to participate in a lottery for three Amazon vouchers each worth 50€ at the end of the study.

In total, 251 women completed the study. However, four participants indicated that their results should not be included in the analysis (method as proposed by Meade and Craig 2012). Of the remaining participants, three correctly guessed the hypothesis and were therefore excluded from the analysis. Another participant was excluded due to missing data. This resulted in a sample of 243 participants. The mean age was $M = 23.40$ years ($SD = 4.51$).

3.2. Measures

3.2.1. Shoes and usage situations

      To control for the category of shoes that participants selected, ten categories were

provided (pumps, high heels, sandals, ballerinas, sneaker, low shoes, lace-up shoes, bootees,

boots and sports shoes). To control for possible differences in the usage situations,

participants in the experimental groups indicated the degree to which the usage situations

they had described were extraordinary (1 "not at all extraordinary" to 5 "very extraordinary")

and evaluated their valence (1 "very negative", 3 "neutral", 5 "very positive").

3.2.2. Affective forecasts and consumption-related measures

Affective forecasts were measured using the contentment and happiness categories of the

consumption emotion set by Laros and Steenkamp (2005). The 12 items (such as "contented"

or "happy") were assessed on a five-point scale (1 "not at all" to 5 "very strongly").

      To ensure the validity of affective forecasts, additional consumption-related measures

were included. Product attractiveness was measured on a seven-point scale (1 "not attractive

at all" to 7 "extremely attractive"). Predicted usage frequency was measured on a seven-point

scale (1 "not frequently at all" to 7 "extremely frequently"). Willingness to pay for the shoes

was measured on a six-point scale ("less than 50€", "50€ to less than 100€", "100€ to less

than 150€", "150€ to less than 200€", "200€ to less than 250€", and "more than 250€").

3.2.3. Belief in adaptation

Belief in adaptation was measured with six items on a five-point scale (1 "do not agree at all"

to 5 "agree completely"). The items were "Even after wearing the shoes several times, they

will be as important for me as right after the purchase"(recoded), "Sometime after the

purchase, it will still seem to me as if I had just bought the shoes" (recoded), " I will adapt to

the shoes very soon after the purchase," "The happiness I will feel wearing the shoes will stay

constant"(recoded), "After some time, the shoes will not be something special for me anymore" and "The shoes will become ordinary in the course of time."

3.2.4. Perceived variability

To measure the perceived variability of the shoes, two items were used: participants indicated to which degree they thought the shoes were versatile (1 "not at all versatile" to 5 "extremely versatile") and in which situations they could wear the shoes (1 "in a few situations" to 5 "in many different situations").

3.2.5. Materialism

To assess materialism, the short form of the Material Values Scale was used (Richins 2004), containing nine statements (such as "I like to own things that impress people") that were evaluated on a five-point scale (1 "strongly agree" to 5 "strongly disagree").

3.2.6. Involvement

To assess general involvement with shoes, five items of the semantic differential involvement measure (Hagendorfer 1992; Zaichkowsky 1985) were recorded on a seven-point scale. These five items consisted of "important/ unimportant" (recoded), "relevant/ irrelevant" (recoded), "of no concern/of concern to me," "boring/ interesting," and "exciting/ unexciting" (recoded) (Hagendorfer 1992; Zaichkowsky 1985).

3.2.7. Baseline emotions

The German version of the PANAS was used to measure baseline emotions (Krohne, Egloff, Kohlmann, and Tausch 1996). The 10 positive items (such as "proud" or "excited") and the 10 negative items (such as "guilty" or "upset") were evaluated on a five-point scale (1 "not at all" to 5 "very strongly"). Because the focus of interest was consumption-related (i.e., positive) affective forecasts, only the positive items were used for further analyses.

3.3. Analyses and results

3.3.1. Measurement model

Factor analyses revealed that affective forecasts (α = .92), belief in adaptation (α = .72),

perceived variability (α = .91), materialism (α = .80), and involvement (α = .87) each formed

one factor. Baseline emotions formed two factors, one for positive affect (α = .86) and one

for negative affect (α = .84). The reliability of the individual items was assessed by

examining the loadings of measures on the corresponding constructs (see Appendix for the

key constructs' measurement properties). All estimates were both reasonable and statistically

significant (Byrne 2001). Table 1 presents the means, standard deviations and correlations of

the key constructs.

(Table 1 about here.)

3.3.2. Preliminary analyses

Participants described the shoes at the very beginning of the study before any manipulation

had taken place. Therefore, it was assumed that there were no differences in terms of the shoe

category of which participants had thought. Nevertheless, preliminary analyses were

conducted to investigate which type of shoes participants selected. The majority of

participants thought of sneakers (27.2%) or bootees (23.5%). A χ^2 test with condition as the

independent variable and shoe category as the dependent variable showed no differences

between the conditions ($\chi^2(18, N = 243) = 14.83, p = .67$).

To assess possible differences between the usage situations besides variability,

differences in the extraordinariness and valence of usage situations were analyzed. A t-test

with extraordinariness as the dependent variable and experimental group (different usage

situations vs. similar usage situations) as the independent variable showed no differences

($t(156) = 0.91, p = .37$). Similarly, a second t-test with valence as the dependent variable and

experimental group (different usage situations vs. similar usage situations) as the independent

variable also showed no differences ($t(156) = -0.91$, $p = .37$).

Affective forecasts correlated significantly with product attractiveness ($r = .30$, $p <$

.01), predicted usage frequency ($r = .15$, $p = .02$) and willingness to pay ($r_S = .14$, $p = .03$),

indicating a good validity.

3.3.3. Structural model

SEM with AMOS was used as an analytical approach. To include the three factor levels of

usage situations in the analyses, two dichotomous variables had to be computed. These new

dichotomous variables, variety and uniformity, represented the description of different usage

situations in comparison with the control group and the description of similar usage situations

in comparison with the control group, respectively. The significance of estimates was

assessed through a bootstrapping approach with 1,000 resamples.

As proposed by Hu and Bentler (1999), a two index-strategy was used to evaluate the

overall model fit, taking the standardized root mean squared residual (SRMR) and the root

mean squared error of approximation (RMSEA) into account (see also MacCallum and

Austin 2000). Both values indicated a good model fit with SRMR = .08 and RMSEA = .06,

90% CI [.06, .07].

Table 2 reports the *direct effects* for the model tested. Timing did not have an

influence on affective forecasts ($b = -0.04$, SE = 0.05, $p = .41$), meaning H_1 had to be

rejected. Whether participants predicted their emotions for two weeks or for four weeks after

the purchase did not matter. Belief in adaptation was negatively related to affective forecasts

($b = -0.30$, SE = 0.05, $p < .01$), thus supporting H_2. The perceived variability was positively

related to affective forecasts ($b = 0.08$, SE = 0.03, $p = .02$), which supported H_3. As proposed

in H_4, belief in adaptation was less pronounced for participants who perceived their shoes to

be highly variable ($b = -0.13$, SE = 0.07, $p = .05$). In comparison to the control group,

participants in the experimental group describing three different usage situations perceived the shoes to be more variable ($b = 0.35$, SE $= 0.12$, $p < .01$), thus supporting H_5. No such difference was found between the experimental group describing three similar usage situations and the control group ($b = 0.17$, SE $= 0.12$, $p = .14$). This indicates that the effect of describing usage situations was related to thoughts about the variability of the shoes and not by thoughts about wearing the shoes in general. As proposed in H_6 and H_7, affective forecasts were positively related to materialism ($b = 0.12$, SE $= 0.07$, $p = .08$) and involvement ($b = 0.06$, SE $= 0.03$, $p = .03$). Moreover, more materialistic participants were also more involved with shoes ($b = 1.08$, SE $= 0.23$, $p < .01$), thus supporting H_8. The more relevant the shoes were the more positive were affective forecasts. Finally, H_9 was also supported, meaning that positive baseline emotions were included with more positive consumption-related affective forecasts for shoes ($b = 0.19$, SE $= 0.07$, $p < .01$).

<center>(Table 2 about here.)</center>

The *indirect effects* of the perceived variability of the consumption experience and materialism on affective forecasts were analyzed as well, following the approach by Besharat, Ladik, and Carrillat (2013) in line with recommendations by Iacobucci, Saldanha, and Deng (2007). As mentioned before, the direct effect of the perceived variability on belief in adaptation ($b = -0.13$, SE $= 0.07$, $p = .05$) and the direct effect of belief in adaptation on affective forecasts were significant ($b = -0.30$, SE $= 0.05$, $p < .01$), indicating some mediation. Z scores were computed to test the relative size of the indirect (mediated) vs. direct paths using the interactive tool provided by Preacher and Leonardelli (2001) for Sobel tests. The result was marginally significant ($Z = 1.77$, $p = .08$), indicating that the influence of variability on affective forecasts was partially mediated through belief in adaptation, and a larger portion of the variance in affective forecasts was due to variability being explained via the indirect rather than the direct path. Considering that the direct effect of the perceived

variability on affective forecasts was significant ($b = 0.08$, SE $= 0.03$, $p = .02$), the partial

mediation was observed in the presence of a direct effect of the perceived variability on

affective forecasts.

Moreover, the direct effect of materialism on involvement ($b = 1.08$, SE $= 0.23$, $p <$

.01) and the direct effect of involvement on affective forecasts ($b = 0.06$, SE $= 0.03$, $p = .03$)

were significant, which again indicated some mediation. As for the first mediation, Z scores

were computed to compare the relative size of the indirect (mediated) vs. direct paths. The

result was marginally significant ($Z = 1.84$, $p = .07$). This indicated that the influence of

materialism on affective forecasts was partially mediated through involvement, with a larger

portion of the variance in affective forecasts due to materialism being explained via the

indirect rather than the direct path. Considering that the direct effect of materialism on

affective forecasts was marginally significant ($b = 0.12$, SE $= 0.07$, $p = .08$), the partial

mediation was observed in the presence of a direct effect of materialism on affective

forecasts.

4. Discussion

The aim of this paper was to obtain a better understanding of the effect of belief in

adaptation on affective forecasts in a consumer context. Previous findings by Pollai et al.

(2010) were extended by analyzing the effect of belief in adaptation on affective forecasts in

a structural equation model. In contrast to Pollai et al. (2010), who used a single item scale to

measure belief in adaptation, and Wang et al. (2009), who interpreted the decline in

enjoyment levels for two different points in time as belief in adaptation, a multiple item

measurement scale was used to assess belief in adaptation. In line with the hypothesis, a high

belief in adaptation resulted in less positive consumption-related forecasts.

The results of this research have extended our knowledge of the conditions under

which lay theories of adaptation are applied. Igou (2004) found that lay theories of continuing

or decreasing affect can be primed and Wang et al. (2009) found that advertisements highlighting the perceived variability of a product can reduce beliefs in adaptation. In this study, it was shown also that consumers themselves could reduce their beliefs in adaptation by thinking about different usage situations, which increased the perceived variability of the future consumption experience. Because Pollai et al. (2010) found that consumers overestimate adaptation to products, this research may enable consumers to predict product-related emotions over time more correctly.

Finally, Pollai et al. (2010) pointed out the fact that other influences on affective forecasts should be considered when analyzing the influence of lay theories of adaptation on consumption-related affective forecasts. Therefore, involvement, materialism, and positive baseline emotions were included in the model. The findings also supported the hypothesized relationships of these personal and situational influences on affective forecasts. Materialism and involvement increased affective forecasts. This supports research by Hartnett and Skowronski (2008) that indicated self-relevant events result in more extreme affective forecasts. They used materialism as indicator for self-relevance in the consumer context. This result was extended by showing that involvement has a similar effect on affective forecasts. In the consumer context, the intensity of positive emotions people expect to experience after a purchase is determined by the importance of products for the self. Because consumers generally tend to be overoptimistic concerning the future usage of products (Tanner and Carlson 2009), this could mean that the more self-relevant a purchase is the higher the risk of affective misforecasting. Confirming prior research on fashion involvement (Browne and Kaldenberg 1997; Cass 2001; Hourigan and Bougoure 2012), materialism increased involvement with shoes. Participants in a positive mood at the time of the forecasting made more positive predictions, replicating findings on the projection bias (Gilbert et al. 2002; Loewenstein et al. 2003).

Timing of the effective forecasts was not found to be an influence. Predicting the emotions for a pair of shoes two weeks and four weeks after the purchase did not differ systematically. It was expected that affective forecasts four weeks after the purchase would be less positive compared to affective forecasts two weeks after the purchase because Pollai et al. (2010) found such a difference. One possible explanation for the difference is that this study was scenario-based, whereas Pollai e al. (2010) asked people who had just bought a pair of shoes in a shop to predict their emotions. Maybe the period of time between two forecasts has to be larger in a hypothetical scenario to become meaningful.

One limitation of this study that should be considered is its scenario-based nature. Because the study was conducted with a student sample of females and just included a single product, the ability to generalize the results is limited. Further research is needed to confirm that the relationship of belief in adaptation, perceived variability and affective forecasts also applies to other products and real-world consumption decisions.

Despite these limitations the study has important implications for theory and practice. It extends the research on affective forecasting in the consumer context by providing a better understanding of the relationship of lay theories of adaptation and affective forecasts and shows the impact of lay theories of adaptation in the presence of other drivers of affective forecasts. Moreover, it shows that getting consumers to think of different usage situations could be one way to help them reduce beliefs in adaptation and influence affective forecasts.

Appendix

Table 3 *Measurement properties of key constructs*

Item	Standardized loading
Affective forecasts (M =3.46, SD = 0.67, α = .92)	
- How would you feel wearing the shoes?	
contented	.67
fulfilled	.79
peaceful	.63
optimistic	.69
encouraged	.71
hopeful	.69
happy	.75
pleased	.80
joyful	.83
relieved	.53
enthusiastic	.79
thrilled	.59
Expected variability (M = 4.30, SD = 0.82, α = .91)	
- To which degree do you think that the shoes are versatile?	.89
- In which situations could you wear the shoes?	.95
Belief in adaptation (M = 3.12, SD = 0.70, α = .72)	
- Even after wearing the shoes several times they will be as important for me as right after the purchase[r]	.65
- Some time after the purchase it will still seem to me as if I had just bought the shoes[r]	.52
- I will adapt to the shoes very soon after the purchase	.19
- The happiness I will feel wearing the shoes will stay constant[r]	.68
- After some time, the shoes will not be something special for me anymore	.70
- The shoes will become ordinary in the course of time	.50
Involvement (M = 5.12, SD = 1.17, α = .87)	
- How do you generally see shoes?	
important/ unimportant[r]	.90
relevant/ irrelevant[r]	.82
of no concern/ of concern to me	.81
boring/ interesting	.63
exciting/ unexciting[r]	.58
Materialism (M = 2.87, SD = 0.69, α = .80)	
- I admire people who own expensive homes, cars, and clothes	.73
- The things I own say a lot about how well I'm doing in life	.46
- I like to own things that impress people	.65
- I try to keep my life simple, as far as possessions are concerned[r]	.46
- Buying things gives me a lot of pleasure	.51
- I like a lot of luxury in my life	.72
- My life would be better if I owned certain things I don't have	.43
- I'd be happier if I could afford to buy more things	.62
- It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like	.42
Positive baseline emotions (M = 2.64, SD = 0.65, α = .86)	
- How do you feel in this moment?	
interested	.53
excited	.76
strong	.69
enthusiastic	.72
proud	.67
alert	.50
inspired	.61
determined	.60
attentive	.52
active	.48

Note: Items denoted with [r] have been recoded.

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Tables

Table 1 Overview of means, standard deviations, reliabilities, and correlations

	M	*SD*	1	2	3	4	5	6
1 Affective forecasts	3.46	0.67	(α=.92)					
2 Expected variability	4.30	0.82	.18**	(α=.91)				
3 Belief in adaptation	3.12	0.70	-.41**	-.06	(α=.72)			
4 Involvement	5.12	1.17	.33**	.00	-.15*	(α=.87)		
5 Materialism	2.87	0.69	.18**	-.06	.06	.39**	(α=.80)	
6 Positive baseline emotions	2.64	0.65	.22**	-.11	-.03	.21**	.16	(α=.86)

Note: N = 243, $^{*}p$ < .05; $^{**}p$ < .01.

Table 2 Maximum likelihood estimates

Relationships		Regression weights (b)	Standard error	p-value	Standardized regression weights (β)	Hypothesis supported?
H_1: Timing	→ Affective forecast	-0.04	.05	.41	-.05	no
H_2: Belief in adaptation	→ Affective forecast	-0.30	.05	< .01	-.49	yes
H_3: Perceived variability	→ Affective forecast	0.08	.03	.02	.15	yes
H_4: Perceived variability	→ Belief in adaptation	-0.13	.07	.05	-.15	yes
H_5: Usage situations						yes
Variety	→ Perceived Variability	0.35	.12	< .01	.20	
Uniformity	→ Perceived Variability	0.17	.12	.14	.10	
H_6: Materialism	→ Affective forecast	0.12	.07	.08	.13	yes
H_7: Involvement	→ Affective forecast	0.06	.03	.03	.15	yes
H_8: Materialism	→ Involvement	1.08	.23	< .01	.47	yes
H_9: Positive baseline emotions	→ Affective forecast	0.19	.07	< .01	.19	yes

Figures

Fig. 1 Conceptual framework
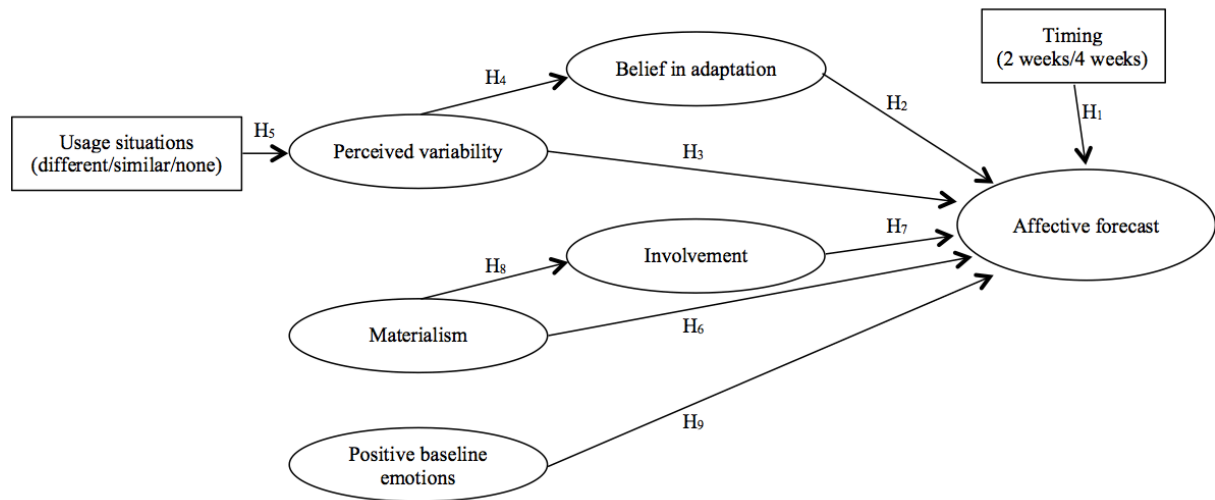
Note: Rectangles represent manipulated variables.