„An ounce of prevention is worth a pound of cure”: The Influence of Regulatory Focus and Regret on the Allocation of Visual Attention

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“An ounce of prevention is worth a pound of cure”: The Influence of Regulatory Focus and Regret on the Allocation of Visual Attention

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Abstract

Visual Sensory input is much more than the human brain can process (e.g., Parkhurst, Law, & Niebur, 2002). Visual attention helps individuals to filter out important visual information. Two mechanisms help individuals to guide their visual attention. There is the bottom-up mechanism, which is stimulus driven. There is also the top – down mechanism, which is goal or intentional driven. Motivational states can also influence the allocation of visual attention on stimuli. For example, in a study from Balcetis and Dunning (2006), participants’ wishes, hopes and fears influenced visual attention on ambiguous figures.

In the present study we examined the influence of regulatory focus, which can be seen as a strategic motivational state, on the allocation of visual attention with eye tracking.

A key assumption of regulatory focus theory is, that “promotion focus yields sensitivity to the presence or absence of positive outcomes” (Higgin, 1997, p. 1282) and that “prevention focus yields sensitivity to the presence or absence of negative outcomes” (Higgins, 1997, p. 1282). Hence, individuals in promotion focus should allocate their visual attention on positive stimuli and individuals in prevention focus should allocate their visual attention on negative stimuli. Although the theory predicts the influence of
regulatory focus on the allocation of visual attention, it was never investigated empirically. Furthermore, the influence from regret, through arousal, on regulatory focus was examined. Arousal amplifies automatic response pattern and regulatory focus can be seen as such. The regulatory focus amplifying effect from regret did not confirm. The influence of regulatory focus on the allocation of visual attention is supported through the data and hence extends regulatory focus theory on implicit processing.
“An ounce of prevention is worth a pound of cure”: The Influence of Regulatory Focus and Regret on the Allocation of Visual Attention

In the anti-war film “The Thin Red Line”, the battle over a Melanesia island between the USA and Japan was shown. The main plot revolves around a handful of soldiers from company C, in which everyone got very distinct characters. For example, there is Colonel Gordon Tall, a hard bitten and ambitious battalion leader, who ordered to take the film-eponymous hill. There is also soldier Bell, who regrets having enlisted in the army and deals the situations of death, decay and fallen comrades with past and future imaginations. One scene describes his hopes and memories: Soldier Bell walks through a threatening scenery of high grass, awaiting a grenade or a bullet at any moment. Slowly, the scene glides into a daydream, a mixture of past memories and future hopes. He and his wife are passionately hugging each other, fondling tenderly and keenly kissing each other on the neck. They are looking dreamy and wishing this moment would never end. The scene changes and his wife, vested in a feathery white dress, is now standing in water on a beach, calling Bell to her as he approaches. Again the scene changes, now ending his daydream, a wonderful close-up of the grass-covered island with the sun glittering through it is shown. One can feel the emotional power of these moments, the aspirations and hopes, which go through soldier Bells mind, his desire for his wife and peace.

Captain Staros, who was ordered by Colonel Gordon Tall to take the hill on the island, has an intensive sense of responsibility for his company, wanting to avoid any unnecessary loss and fatality. This feeling of liability to his men goes so far, that he refuses the orders from Colonel Tall, “I've lived with these men, sir, for two and a half years and I will not order them all to their deaths.”
Soldier Bell and Captain Staros represent two different mindsets, called regulatory focus. Soldier Bell is thinking of hopes, aspirations and accomplishments, which leads to promotion focus, Captain Staros is thinking of responsibilities, safety and oughts, which leads to prevention focus (Higgins, 1997). Individuals in promotion focus, like soldier Bell, concentrate on positive outcomes, individuals in prevention focus, like Captain Staros, concentrate on negative outcomes (Higgins, 1997). When in combat, regulatory focus could have an influence on the allocation of visual attention. For example, it may be possible, that soldiers in prevention focus allocate their visual attention on negative, threatening visual stimuli and soldiers in promotion focus allocate their visual attention on positive, rewarding visual stimuli, through priming. Although the theory predicts the influence of regulatory focus on the allocation of visual attention, it was never directly measured. The fit between promotion focus and positive visual stimuli and the fit between prevention focus and negative visual stimuli increases goal fluency and makes the matching stimuli easier and faster accessible (e.g. Labroo & Lee, 2006), which is called regulatory fit (Higgins, 2000). Regulatory focus would be important for survival. So the question to make is: which one of the two regulatory foci helps in combat to survive and which one should be avoided? The key assumption is that individual’s weight fitting visual stimuli stronger and therefore allocate more visual attention on the regulatory fitting stimuli.

Soldier Bell does not only think of his wife and peace, he also regrets his voluntary admittance to the US army. This so called life regret, which a false career decision certainly is, produces arousal, identified by Wrosch et al. (2007). The findings of Zajonc (1965) and other researcher (e.g., Blascovich, Mendes, Hunter, & Salomon, 1999) suggest, that arousal amplifies automatic response pattern and regulatory focus
can be seen as such. So regret should amplify the two different mind sets, namely promotion and prevention focus. Another main goal of this research was to connect regulatory focus theory with regret. Regret was chosen, because of its specific characteristics, especially the arousal inducing effect and its strong and widespread nature.

It is a well-known fact that visual sensory input is much more than a human brain can process. To deal with this circumstance, evolution gave human individuals a tool for reducing information and selecting important visual stimuli - visual attention (e.g., Desimone & Duncan, 1995). There are two main mechanisms for selection, the so called bottom-up mechanism and the so called top-down mechanism (e.g., Bless, Fiedler, & Strack, 2004). Bottom-up means that the allocation of visual attention is influenced from highly salient visual stimuli, for example, a red dot in an amount of black ones. This is enough to automatically attract visual attention. Top-down means that the allocation of visual attention is influenced through prior knowledge, expectations and intentions. For example, if an individual has the intention to eat something, this individual’s visual attention will allocate on restaurants, when walking through the street. The findings of Balcetis and Dunning (2006) confirmed that motivation can also influence visual attention. Regulatory focus is a strategic motivational state and therefore should influence the allocation of visual attention.

According to Higgins’ (1997) regulatory focus theory, there are two basic strategic motivational orientations respectively two dominant response patterns. These are called promotion focus and prevention focus and describe the way people approach desired end-states and implicitly process information. Individuals who think of nurturance, aspirations, accomplishments, ideals and gain – non gain situations when
attaining a goal, get into promotion focus. Individuals who think of responsibilities, safety, oughts and non loss – loss situations when attaining a goal, get into prevention focus (Higgins, 1997). For example, participants read different mottos in a study by Faddegon, Scheepers and Ellemerts (2008) and had to think about them. One half of the participants read a motto like: “if there is a will, there will be a way”. This motto induced a promotion focus because it concentrates on accomplishments and gains (originally from Stekelenburg, 2006). The other half of the participants read a motto like: “an ounce of prevention is worth a pound of cure”. This motto induced a prevention focus because it concentrates on safety and non loss situations (originally from Stekelenburg, 2006).

Regulatory focus can come from three different sources. First of all, there is the so called chronic regulatory focus (Higgins, 1997). For example, children learn in the interaction with their caretakers whether they get encouraged overcoming difficulties or whether they get criticized for making a mistake. Later in life, friends, family, coworkers, comrades or significant other persons provide encouragement or critic to the individual. Secondly, situations and messages are capable of inducing one of the two regulatory foci, which has been shown in many studies (e.g. Friedman & Förster, 2001; Florack & Hartmann, 2007; de Lange & van Knippenberg, 2007; Lee & Aaker, 2004). For example, in a study by Friedman and Förster (2001), participants had to complete a maze task. One group of the participants “guided” a mouse to a cheese outside the maze (promotion focus), the other group’s mouse had to “flee” from an owl to the outside of the maze (prevention focus). Thirdly, products and brands can also induce either a promotion (e.g. luxury goods) or a prevention (e.g. insurances) focus (Labroo & Lee, 2006; Zhou & Pham, 2004). Such momentarily active regulatory focus is induced
through priming, which makes, for instance, ideals or oughts more accessible (Pham & Avnet, 2004).

When the chronic or momentarily regulatory focus is active, individuals in promotion focus are sensitive to the presence and absence of positive outcomes. Whereas individuals in prevention focus are sensitive to the presence and absence of negative outcomes (e.g. Higgins, 1997). Let us take the example from Faddegon, Scheepers and Ellemerts (2008) given above and assume that a participant read both the promotion focus and the prevention focus motto. If the participant has been in a promotion focus before he had read both mottos, he would focus on the “if there is a will, there will be a way” motto. This is because of the sensitivity to positive outcomes and gains. If the participant has been in a prevention focus before he had read both mottos, he would focus on the “an ounce of prevention is worth a pound of cure” motto. This is because of the sensitivity to negative outcomes and avoidance. This leads to the conclusion that individuals in a promotion focus want to attain a match to desired end-states, individuals in a prevention focus want to avoid a mismatch to desired end-states (Higgins, Roney, Crowe, & Hymes, 1994).

Referring to strategic means, approach is the preferred method in promotion focus, avoidance is the preferred method in prevention focus (Higgins, 1997). For example, there are two different strategies which increase the likelihood to get a good mark (desired end-state) for an examination. One individual studies hard in a library the day before the examination (promotion focus), another individual rejects going out with friends one night before the examination (prevention focus) (Crowe & Higgins, 1997). In this example, studying hard matches the desired end state, the individual reacts with approach. Rejecting going out with friends is an avoided mismatch to the desired end
state, the individual reacts with avoidance.

In signal detection terms, on the one hand, individuals in a promotion focus want to insure hits and insure against errors of omission (Crowe & Higgins, 1997; Higgins, 1997). Furthermore when working on a task, eagerness and speed are the methods of choice and there is a risky bias (e.g. Crowe & Higgins, 1997; Förster, Grant, Idson, & Higgins, 2001; Förster, Higgins, & Bianco, 2003). On the other hand, individuals in a prevention focus want to insure correct rejections and insure against errors of commission (Crowe & Higgins, 1997; Higgins, 1997). Furthermore when working on a task, vigilance and accuracy are the methods of choice and there is a conservative bias (e.g. Crowe & Higgins, 1997; Förster, Grant, Idson, & Higgins, 2001; Förster, Higgins, & Bianco, 2003).

A finding about the regulatory focus on a neurological level comes from Cunningham, Raye and Johnson (2005) through an fMRI study, which is important in relation to regret. In a task about making judgments of the valence of concepts, it was possible to view active brain areas while in promotion or prevention focus. The analysis of the brain images showed, that the amygdala, the anterior cingulate cortex (ACC) and perceptual areas are involved both when promotion focus or prevention focus was induced. More and more findings (e.g., Arana et al., 2003) provide additional evidence, that the amygdala is involved, when subjectively important stimuli are processed. The ACC is associated with attention, the selection of stimuli and emotional processes (Kondo, Osaka, & Osaka, 2004; Posner, Petersen, Fox, & Raichle, 1988; Taylore, Phan, Decker, & Liberzon). When attention is involved, directing ones gaze to momentarily important stimuli helps for selection. In agreement with this proposition there was an increased activity in perceptual areas. Summed up, the study (Cunningham et al., 2005)
suggestions that the amygdala, the ACC and perceptual areas are there for behavioural
guidance and allocation of visual attention and so they represent the regulatory focus.

Important when viewing and processing visual stimuli are the speed of
processing and the allocation of visual attention. In reference to regulatory focus, there
is a measurement of chronic regulatory focus which is based on response latency
(Higgins, Sha, & Friedman, 1997; Sha, Higgins, & Friedman, 1998). Participants had to
produce attributes in relation to their self-ideals and self-oughts. The speed of producing
these attributes was measured with the help of a computer. The faster a participant
responded, the more accessible these self-guides were. Individuals in promotion focus
produced promotion focus related self attributes faster. Individuals in prevention focus
produced prevention focus related self attributes faster (cf. Fazio, Powell, & Williams,
1989; Fazio et al., 2003). This finding suggests that in promotion focus, individuals
allocate their visual attention first to positive valenced stimuli. In prevention focus,
individuals allocate their visual attention first to negative valenced stimuli. This can be
explained through priming, which increases goal fluency and makes the matching
stimuli easier and faster accessible (e.g. Labroo & Lee, 2006), which is called
regulatory fit (Higgins, 2000). Florack, Ineichen and Bieri (2009) provide also more
evidence that regulatory focus allocates individuals attention to regulatory fitting
stimuli. In their study about two sided advertising, individuals in prevention focus
attended more to negative information and hence evaluated two sided ads more
negative.

Although one would think for example, when an individual allocates on positive
stimuli first in promotion focus, one’s attention could focus on other important stimuli,
there is also another likely processing possibility. As Cunningham et al. (2005) propose,
important stimuli are processed more efficiently and new and more subtle distinctions are made conscious for these stimuli, which need further processing. So in promotion focus not only should individuals allocate on positive valenced stimuli first, but also should individuals allocate more visual attention on positive valenced stimuli for deeper processing. The same applies for prevention focus and negative valenced stimuli. This proposition is supported from salience theory, which proposes more attention to momentarily important stimuli, which match current goals (Fiske & Taylor, 1991). The main statement from regulatory focus theory proposes more sensitivity on positive outcomes in a promotion focus and more sensitivity on negative outcomes in a prevention focus. When we transfer this to the current paper it is highly likely that individuals allocate more visual attention to matching stimuli.

As the author knows, there is no study which directly measures the allocation of visual attention in relation to regulatory focus on a basal level. So although there is strong evidence from theory, there is no empirical validation.

H1: In promotion focus, individuals allocate their visual attention on positive visual stimuli first. In prevention focus, individuals allocate their visual attention on negative visual stimuli first.

H2: In promotion focus, individuals allocate more visual attention on positive visual stimuli. In prevention focus, individuals allocate more visual attention on negative visual stimuli.

Because regulatory focus is a dominant response pattern, it can be amplified. For example, physical exercises raised arousal and this amplified aggressiveness (dominant response pattern) in a study by Zillmann, Katcher and Milavsky (1972). In the present
study, regret takes over the role of physical exercise to raise arousal. A Soldier in prevention focus regretting his circumstances could have more and faster allocation on negative and threatening stimuli.

Regret is a specific emotion, because it requires a decision. Without making a decision there are no feelings of regret. Regret occurs when one feels and thinks that another decision would have been better (e.g. Zeelenberg & Pieters, 2007) and so one blames oneself. Humberstone (1980) added following reasoning for the occurrence of regret: When one places a bet on something and loses there is definitely a feeling of regret. But also when one wins a bet there is the possibility for feeling regret because one could think that one should have placed more money on it. This makes regret a very widespread emotion.

Even though one strongly thinks about his or her made decisions that produce higher order cognitive processes (Zeelenberg & Pieters, 2004b), regret is not a cognition. It is a functional cognitive emotion, because it is a strong motivator which gives guidance about which goals or behaviours one should pursue (Zeelenberg & Pieters, 2007). So regret fulfils a pragmatic approach of emotions, which are there for doing (Zeelenberg & Pieters, 2006a). Regret is also a specific emotion, because it is different from other negative emotions such as disappointment, anger or sadness. For example, regret influences behaviour differently than disappointment, it is a better predictor for switching a service provider, whereas disappointment is a better predictor for complaining to a service provider (Zeelenberg & Pieters, 1999). It can be assumed that regret raises one’s arousal and accordingly leads to some sort of action. Regret also distinguishes itself from these negative feelings in their experiential content and appraisal (Van Djik & Zeelenberg, 2002a).
Making a decision is not the only requirement for feeling regret. The felt responsibility of a decision plays a prominent role in feeling regret. For example, if one decides on an unconventional stock, one blames oneself if the stock does not meet the expectations and feels regret. If one decides on a conventional stock, one does not blame oneself if the stock does not meet the expectations, because this choice involves little responsibility (Shefrin & Statman, 1985). We look at it as a misfortune that we could not influence. By contrast, there is evidence, when consumers consider regret in their decision making process, they tend towards conventional brands instead of generic brands to avoid the negative feelings of regret (Simonson, 1992). Generally, individuals are regret averse and so one tends to maximize the outcome in the short run, in the long run individuals learn to maximize the outcome through experience (Zeelenberg & Pieters, 2007). Because individuals differ in their personal tendency to maximize and to compare, there are individual differences in regret proneness (Zeelenberg & Pieters, 2004b). For example, individuals, who are satisfied with less, do not feel that much regret if their decision outcome is not the maximum.

There is one more requirement for feeling regret, but one which is not undisputed. Regret only occurs after the outcomes of the decisions are known (Zeelenberg, 1999). For example, if one marries someone, one will never get to know how the not-chosen option, that is to say to marry another person, would be and so one cannot feel regret. According to this, purchasing a lucky dip ticket does not lead to regret because one cannot know the not-chosen option (Humphrey, 2004). This proposition is not undisputed as Tsiros and Mittal (2000) found that regret can indeed be felt without knowing the not-chosen option. But it can be assumed, that more regret is felt when the decision outcome is known.
An important assumption is that individuals take regret into account before they decide. This is known as anticipated regret. For example, if one has to decide which rocky way to go along and there are two considered alternatives, one tends to decide for that alternative, which results in less regret. This proposition is called “minimax regret principle” (Lee, 1971; Savage, 1951) and is criticized as being overly pessimistic and does not include probabilities (Zeelenberg, 1999).

Regret after a decision, which is called retrospective regret, taken together with anticipated regret, builds a bridge between the past and the future (Zeelenberg & Pieters, 2007). This means that retrospective regret transforms to anticipated regret. In a study (Creyer and Ross, 1999), participants had to act as salespeople. They had to bid on a high order for goods, which they lost. This influenced their consecutive bidding and incorporates part of the decision context, which can be seen as anticipated regret. The more similar the previous decision is with the actual decision context, the more influence regret has.

Regret can occur from different circumstances. Firstly, regret can occur from decisions to act or not to act (e.g., Kahneman & Tversky, 1982; Zeelenberg & Pieters, 2007). Imagine two people who independently made a journey in a tropical country. One person has had a vaccination against tropical diseases but felt bad during the journey because of the side effects. So this person might think that the journey would have been better without the vaccination and feels regret. This type of regret occurs from the decision to act. The other person has not had a vaccination against tropical diseases but also felt bad during the journey because of a tropical disease. So this person might think that the journey would have been better with the vaccination and feels regret. This type of regret occurs from the decision not to act. Which type of regret
produces stronger effects depends on switching from ones decision norm (Zeelenberg, Van den Bos, Van Dijk & Pieters, 2002). If for an individual inaction is the behavioural norm, then deciding for an action produces more regret. If for an individual action is the behavioural norm, then deciding for an inaction produces more regret. Furthermore, the more the decision is justifiable, the less regret occurs (Inman & Zeelenberg, 2002).

Secondly, regret can also occur from the decision process or from the decision outcome (e.g., Das & Kerr, 2010; Zeelenberg & Pieters, 2007). Imagine two people who visit a party and drink alcohol. One person falls asleep during the bus ride back home and does not wake up until the next morning. This person may regret the outcome. One person drives home by car and sleeps the whole night in a cosy bed. But the next morning this person has thoughts about how this decision has come about. This person may regret the decision process and not the outcome (Sugden, 1985). These two sources of regret jointly influence the feeling of regret (Pieters & Zeelenberg, 2005).

In comparison with other emotions, regret is a very strong emotion and was rated as the most negative and second most frequent emotion (Saffrey and Roese, 2006). The strongest effects of regret occur when people think about missed opportunities in life, which is called intense life regret (Roese & Summerville, 2005). Missed opportunities in life raise diurnal cortisol secretion (Wrosch, Bauer, Miller, & Lupien, 2007), which is a good indicator for arousal and so regret can lead to more psychological related health problems in older adult’s life.

Another main goal of this research was to investigate, if retrospective regret amplifies regulatory focus at the allocation of visual attention. When we feel intense life regret, our diurnal cortisol secretion level is raised (Wrosch et al., 2007). This value is a good indicator for increased arousal, which raises dominant response pattern (e.g.,
Blascovich, Mendes, Hunter & Salomon, 1999; Zajonc, 1965). Regulatory focus can be seen as a strategic tendency (Higgins, 1997) or as a dominant response tendency (Cesario, Grant & Higgins, 2004). Förster, Higgins and Bianco (2003) already found regulatory focus amplifying effects. Under a time limit, participants had to connect numbered dots. Participants in promotion focus were faster but less accurate and participants in prevention focus were more accurate but slower. When the participants in the promotion focus group got closer to the end of the time limit, they got even faster and less accurate. When the Participants in the prevention focus group got closer to the end of the time limit, they got even more accurate and slower. It can be argued that this finding can be explained through arousal: the closer to the goal, the more arousal. On neurological level there is also strong evidence that regret, through arousal, amplifies regulatory focus. Arousal is known to increase processing in cortical brain areas (Pruessner et al., 2010). Cortisol does not only have long term effects (Wrosch et al., 2007) but also rapid effects, which appear within 15 minutes when the level of arousal is increased (Strelzyk et al., 2012). There is evidence, that cortisol damps cortical areas to avoid brain overload during arousal, to adopt for currently important stimuli. So background processes are tuned down to make resources free, which “improve the processing of potentially important and demand-specific sensory input” (Strelzyk et. al., 2012, p. 623) and allow a more focused processing. The amygdala, the anterior cingulate cortex (ACC) and perceptual areas may get more weight for processing signals. It seems evidently that there is a connection between these rapid cortisol effects under arousal and regulatory focus.

**H3: Retrospective regret amplifies regulatory focus at the allocation of visual attention.**

Individuals, who feel regret while in promotion focus, allocate earlier on positive visual
stimuli than in promotion focus without regret. Individuals, who feel regret while in prevention focus, allocate earlier on negative visual stimuli than in prevention focus without regret.

H4: Retrospective regret amplifies regulatory at the allocation of visual attention

Individuals, who feel regret while in promotion focus, allocate more visual attention to positive visual stimuli than in promotion focus without regret. Individuals, who feel regret while in prevention focus, allocate more visual attention to negative visual stimuli than in prevention focus without regret.

To test the main hypotheses, participants had to think about either ideals or oughts and write them down. Ideals or oughts induced regulatory focus. Afterwards one group had to think about life regrets and write them down, the other group didn’t have a regret inducing intervention. Then each participant had to watch a set of stimuli, which consisted of two either positive, negative or neutral pictures simultaneously shown. Data was collected with an eye tracker.

**Method**

*Design and Participants.* Forty-eight male students (mean age = 25.25 years, SD = 5.093), which were recruited at the campus of the University of Vienna, participated in an eye tracking study. We randomly assigned the participants to one of four experimental conditions (2x2 design). The experiment consisted of either a promotion or prevention focus condition and either a regret inducing or no regret inducing condition with 12 persons a group.

*Procedure.* We asked potential participants, if they had time for a social-psychological experiment. We then invited the participants in an eye tracking laboratory,
which consisted only of a desk with a monitor, mouse and a keyboard. We told the participants that the experiment investigates the influence of emotions on retention of pictures as a cover story. At first, participants got a translated paper and pencil measurement of chronic regulatory focus (RFQ) (Higgins et. al., 2001) in German. Afterwards they got either the promotion or prevention focus inducing instruction and had to work on it without a time limit. Then they got either the regret inducing instruction or no instruction. Half of the participants then had to work on the regret inducing instruction, again without a time limit. Participants got no time limit to avoid stress and therefore exclude potentially confounders. The eye tracking session with positive, negative and neutral visual stimuli followed next. After the eye tracking session, participants had to fill out the SAM scale, PANAS scale and a Regret scale in this order to control for arousal, mood and strength of regret. Last, participants had to write down, if they had noticed some occurrences during the experiment. Afterwards they were debriefed and thanked.

**RFQ.** This five-point questionnaire consists of two unipolar scales (promotion and prevention focus) which are independently calculated (e.g., “Wie oft folgten Sie den Regeln und Vorschriften ihrer Eltern?” [“How often did you obey rules and regulations that were established by your parents?”]). We measured the chronic regulatory focus as a backup, if the momentarily induced regulatory focus failed to survive the regret inducing condition.

**Manipulation of regulatory focus.** Afterwards each participant had to work on either a promotion focus or a prevention focus inducing task, which was randomly assigned. In the promotion focus inducing task, participants had to think about their past hopes, aspirations, and dreams, which they wrote down on a piece of paper. Then they
had to underline their two most important goals (e.g., “in einer großen und berühmten Firma zu arbeiten” [“Working at a big and famous company”]). This task was repeated once again, the only difference being to think about current hopes, aspirations, and dreams. In the prevention focus inducing task, participants had to think about their past duties, obligations, and responsibilities, which they wrote down on a piece of paper. Then they had to underline their two most important goals (e.g., “sich in der Öffentlichkeit gut benehmen zu müssen” [“must behave well in public”]). This task was repeated once again, the only difference being to think about current duties, obligations, and responsibilities (for the detailed instructions see appendix) (based on the instructions from Pham and Avnet (2004)).

*Manipulation of regret.* Then half of the participants got a regret inducing instruction (see appendix). They had to think about an important situation in life, in which they felt the most regret (e.g., to have stolen as an adolescent, have chosen the wrong university studies). We instructed the participants to put themselves in this past situation and write it down. The effectiveness of this regret inducing task was affirmed by Richard, van der Pligt and de Vries, (1996). The other half of the participants got no regret inducing task and so they started the eye tracking session immediately.

*Eye tracking system.* We used an iView X eye tracking system from SensoMotoric Instruments at 250 Hz tracking resolution. The average gaze-position accuracy was $M = 0.8271^\circ$, $SD = 0.64774^\circ$, participants were 80 centimetres to 100 centimetres away from the monitor. The monitor was 19 inch large and had 1680 x 1050 pixel resolution.

*Eye tracking stimuli.* We took pictures, which were 800 x 600 pixels large, from the International Affective Picture System (Lang et. al., 2008) for the eye tracking
session. Furthermore, we took these 54 pictures, which were already taken in a study by Ford et. al. (2010). These authors made a pilot study to control for arousal, which didn’t differ between the pictures (positive: $M = 6.37$, $SD = 0.32$, neutral: $M = 6.37$, $SD = 0.27$, negative: $M = 6.37$, $SD = 0.28$) The visual material consisted of each 18 positive, negative or neutral valenced pictures. Because there are nine possible combinations to display two pictures in regard to positive, negative and neutral valenced categories, each combination consisted of three randomly arranged pairs of pictures. This leads to 27 pairs of pictures, shown at the eye tracking session. To avoid sequence and left-right effects, we randomly created two sets of the pairs of pictures. To create the two other sets, the pairs of set 1 and 2 were mirrored (left to right and vice versa) and the sequence was again randomly arranged, leading to four sets of pictures.

*Eye tracking session.* When the eye tracking session started, a calibration was performed. Then the first sequence started, consisting of a 1sec presentation of a fixation cross, 2sec presentation of the pair of pictures and a question to a detail of the pair of pictures (see appendix for more stimuli). In approximately half of the questions this object was there. The questions referred to inanimate and mundane objects.

![Figure 1. Eye tracking session.](image)
If the object was there, in approximately half of the cases the question referred to the pictures on the left respectively the right side. We did this to balance the attention of the participants to both sides of the pairs of the pictures and to increase the overall attention.

*SAM scale.* After the eye tracking session, participants filled out the Self-Assessment Manikin (SAM) (Bradley & Lang, 1994), a non-verbal, five-point scale of momentariliy valence and arousal. We used this scale to control if regret raises participants arousal.

*PANAS scale.* The last questionnaire, which all participants had to fill out, was the Positive and Negative Affect Schedule (PANAS) (Watson & Clark, 1988). This is a well know mood scale, which is reliable and valid. The PANAS scale consists of two independent 10-item scales and can be rated from 1 (very slightly, not at all) to 5 (extremely). We used this scale to assess, if regret influences mood. We also used it to asses, if promotion or prevention focus do not influence mood. Mood priming can influence the allocation of visual attention and therefore make results ambiguous.

*Regret scale.* Participants in the regret group got an eleven point regret questionnaire, which consisted of twelve statements in relation to regret (Leder, Florack, & Keller, 2011). Participants had to rate this life regret, which they had described and had written down before. We originally used this test to measure, if regulatory focus incongruent regret amplifies regulatory focus more than congruent regulatory focus. For simplifying circumstances, we did not involve this test in the analysis. The last question was, if the participants could imagine a life regret at all.

We then asked the participants if they had noticed some occurrences during the
experiment. Then they were debriefed and thanked.

Results

Effect of regret manipulation on positive and negative affect. Because individuals rated regret as the most negative emotion in a study by Saffrey and Roese (2006), we expected that participants in the regret group felt significantly worse than participants in the non-regret group. To test our hypothesis, we computed a MANOVA of the positive and negative parts of PANAS scale as repeated measurement factor and regret (regret vs. non-regret) as independent factor. There was a significant effect, Wilk’s $\lambda = .910$, $F (1, 46) = 4.531$, $p = .039$. According to this result, participants in the regret group had lower positive affect scores ($M = 25.21$, $SD = 7.06$), compared to the non-regret group ($M = 27.96$, $SD = 6.69$). On the negative scale of PANAS, participants in the regret group got higher negative affect scores ($M = 18.79$, $SD = 7.96$) as participants in the non-regret group ($M = 15.21$, $SD = 5.06$). So participants in the regret condition felt worse than their counterparts in the non-regret condition.

Effect of regulatory focus manipulation on positive and negative affect. In promotion and prevention focus it depends on goal achievement, if positive or negative affect is induced. Individuals in promotion focus feel negative when they do not achieve a goal, whereas individuals in prevention focus feel negative when they cannot avoid a mismatch to a goal. Individuals in promotion focus feel positive when they achieve a goal, whereas individuals in prevention focus feel positive when they can avoid a mismatch to a goal (cf. Higgins et al., 1997). So we did not expect an influence from regulatory focus on affect. To test our hypothesis, we computed a MANOVA of the positive and negative parts of PANAS scale as repeated measurement factor and regulatory focus (promotion vs. prevention focus) as independent factor. There was no
significant effect, Wilk’s $\lambda = .991$, $F(1, 46)$, $p = .523$. There were no differences between promotion and prevention group in regard to positive and negative parts of PANAS scale. Regulatory Focus did not have an influence on affect.

**Entry time.** The first data which was analysed with the eye tracking system was the entry time. The entry time is defined as the time which is needed to fixate an area of interest (AOI) for the first time. A gaze qualified as a fixation if the minimum duration was higher than 80ms. The AOIs were the pictures without their black frames. Because there were broader and less broader AOIs (the height was always the same), it was controlled if they were counterbalanced across the experiment. And they did. There are three types of AOIs, positive, neutral and negative ones. We excluded the neutral pictures from the analysis because of their low value for regulatory focus. We expected the clearest differences from positive and negative pictures only. Furthermore it is highly doubtful, that e.g., a bear or tiger in combat position baring ones teeth are neutral stimuli, but rather threatening.

**Effect of regulatory focus manipulation on entry time (H1).** Because individuals process regulatory fitting stimuli easier, we expected that participants allocate first on regulatory fitting pictures (H1). To test our hypothesis, we computed a Manova with regulatory focus (promotion vs. prevention focus) as independent factor and entry time (positive vs. negative pictures) as repeated measurement factor. Regret and non regret group were mixed up because of the small sample. A significant effect could be found, Wilk’s $\lambda = .914$, $F(1, 44)$, $p = .047$. This means that there are differences at the speed of allocation of visual attention on positive and negative pictures, dependent on a person’s regulatory focus. To get more differentiated information, we conducted contrasts. The first (paired) t-test compared the means from negative ($M = 615.83$, $SD = 113.57$) and
positive (M = 539.87, SD = 157.81) entry time in promotion focus, t(23) = 2.465, p = .022, which was significant. The second t-test compared the means from positive entry time in promotion (M = 539.86, SD = 157.81) and prevention (M = 598.60, SD = 90.21) focus, t(46) = -1.583, p=.120, which was not significant. The third (paired) t-test compared the means from negative (M = 585.84, SD = 173.03) and positive (M = 598.6, SD = 90.21) entry time in prevention focus, t(23) = -.430, p = .671, which was not significant. The fourth and last t-test compared the negative entry time in promotion (M = 615.83, SD = 113.57) and prevention (M = 585.84, SD = 173.03) focus, t(46) = .710, p = .481, which also was not significant. Summed up, only one contrast could be verified as valid. In promotion focus, participants allocate earlier on positive valenced pictures than on negative valenced pictures.

Dwell time. The dwell time is defined as the sum of saccades and fixations on an AOI. A gaze qualified as a fixation if the minimum duration was higher than 80ms. We again excluded the neutral pictures from the analysis.

Effect of regulatory focus manipulation on dwell time (H2). Because individuals process regulatory fitting stimuli easier, we expected that participants allocate more visual attention on regulatory focus fitting pictures. Subtle distinctions in the fitting pictures are made conscious, which need further processing. Salience theory strengthens this hypothesis (H2). To test our hypothesis, we computed a Manova with regulatory focus (promotion vs. prevention focus) as independent factor and dwell time (positive vs. negative pictures) as repeated measurement factor. Regret and non regret group were mixed up because of the small sample. No significant effect could be found, Wilk’s λ = .985, F (1,44), p = 0.414. This means that there are no differences at the allocation of visual attention on positive or negative pictures, dependent on a person’s regulatory focus.
Effect of regret manipulation on regulatory focus at entry time (H3). Regret induces arousal. Because arousal amplifies dominant response pattern, and regulatory focus can be seen as such, we expected that regret amplifies regulatory focus. We expected that individuals allocate earlier on regulatory focus fitting pictures while feeling regret than without regret (H3). To test our hypothesis, we computed a Manova with regulatory focus (promotion vs. prevention focus) and regret (regret vs. non regret) as independent factors and entry time (positive vs. negative pictures) as repeated measurement factor. No significant effect could be found, Wilk’s $\lambda = .996$, $F (1,44)$, $p = .670$. This means that there are no differences at the speed of allocation of visual attention on positive or negative pictures, dependent on an individual feeling regret or no regret.

Effect of regret manipulation on regulatory focus at dwell time (H4). Regret induces arousal. Because arousal amplifies dominant response pattern, and regulatory focus can be seen as such, we expected that regret amplifies regulatory focus. We expected that individuals allocate more visual attention on regulatory focus fitting pictures while feeling regret than without regret (H4). To test our hypothesis, we computed a Manova with regulatory focus (promotion vs. prevention focus) and regret (regret vs. non regret) as independent factors and dwell time (positive vs. negative pictures) as repeated measurement factor. No significant effect could be found, Wilk’s $\lambda = .996$, $F (1,44)$, $p = .688$. This means that there are no differences at the allocation of visual attention on positive or negative pictures, dependent on an individual feeling regret or no regret.

Effect of regret manipulation on arousal. Although these results are clear in their
implications, that is to say that regret had no influence on regulatory focus in this study, we need to take a closer look at the level of arousal. A t-test with SAM arousal scale between regret (M = 3.46, SD = .977) and non regret (M = 3.13, SD = 1.035) group revealed no differences between these groups, t(46) = 1.147, p = .257. We could not find higher level of arousal in the regret group.

*Effect of regulatory focus manipulation on dwell time at both positive and negative pictures.* There is an additional result in regard to promotion and prevention focus at the allocation of visual attention on pictures in general, regardless if positive or negative. The fourth MANOVA, which served to test the dwell time without regret (H2), was tested on between-subjects-effects across positive and negative pictures. Regulatory focus and regret were entered as variables. A significant effect could be found, F (1,44) = 4.302, p = .044. In the promotion focus group, participants’ dwell time was lower than participants’ dwell time in the prevention focus group. To get more differentiated information, a contrast was conducted. The t-test compared the promotion focus group without regret (M = 763.24, SD = 159.13) with prevention focus group without regret (M = 848.41, SD = 45.57). No significant effect could be found, t(22) = -1.783, p = .088. Participants in the promotion focus group without regret did not differ from people in the prevention focus group without regret at the allocation of both positive and negative pictures. But all in all, there is a noticeable effect for regulatory focus on the allocation of visual attention on stimuli in general.

**Discussion**

In this study, we tested the hypotheses, that regulatory focus influences the allocation of visual attention on visual stimuli and that regret amplifies regulatory focus. In promotion focus, individuals allocate their visual attention on positive visual stimuli
first. In prevention focus, individuals allocate their visual attention on negative visual stimuli first (H1). Furthermore, in promotion focus, individuals allocate more visual attention on positive visual stimuli. In prevention focus, individuals allocate more visual attention on negative visual stimuli (H2).

Regret, through its arousal inducing effect (Wrosch et al., 2007), should amplify the effects of regulatory focus. It was argued that arousal amplifies automatic response pattern (Blascovich, Mendes, Hunter & Salomon, 1999; Zajonc, 1965) and regulatory focus can be seen as such. Furthermore, Förster, Higgins and Bianco (2003) found out that participants got faster but less accurate in promotion focus and even more, they got closer to their goal. In prevention focus participants got more accurate but less faster and even more, they got closer to their goal. This circumstance can be explained through arousal, which is induced the closer to the goal. Individuals, who feel regret while in promotion focus, allocate earlier on positive visual stimuli than in promotion focus without regret. Individuals, who feel regret while in prevention focus, allocate earlier on negative visual stimuli than in prevention focus without regret (H3). Furthermore, individuals, who feel regret while in promotion focus, allocate more visual attention to positive visual stimuli than in promotion focus without regret. Individuals, who feel regret while in prevention focus, allocate more visual attention to negative visual stimuli than in prevention focus without regret (H4).

An eye tracking study was designed, where the entry time and dwell time in regard to positive, negative and neutral pictures were assessed. We induced regulatory focus and regret experimentally.

We found support for one of the four hypotheses through the data. Individuals allocate their visual attention on regulatory focus fitting visual stimuli first (H1).
The hypothesis, that individuals should allocate more visual attention on regulatory focus fitting visual stimuli (H2), was disapproved. There were no differences at the allocation of visual attention on positive or negative pictures, dependent on a person’s regulatory focus. The regulatory focus amplifying effect of regret was also disapproved (H3, H4). As the t-test for arousal showed, there were no differences between the regret group and the non regret group. The induction of arousal through regret failed. There is an explanation for this circumstance. As Strelzyk et al. (2012) found out, the effect of arousal, through cortisol, can only appear after a minimum of 15 minutes. Because the eye tracking session began immediately after the regret inducing instruction and did not last 15 minutes, cortisol could not have an influence on cortical brain areas. For following studies the author suggests that the direct influence of cortisol should be investigated first. Cortisol should be injected like in the study from Strelzyk et al., (2012), waiting for 15 minutes and then beginning the eye tracking session.

This research supports the core assumption that regulatory focus influences the allocation of visual attention, which has not been tested yet. For the first time we could support the hypothesis, that participants allocate first on regulatory fitting visual stimuli. Although there was strong evidence, which made the results of this study expectable, there was no empirical prove. This result is all the more remarkable, because promotion focus is associated with speed and efficiency (Förster, Higgins, & Bianco, 2003). But we could approve regulatory fit hypothesis one more time (Higgins, 2000).

Furthermore, previous research didn’t refer to implicit processing and this study extends regulatory focus theory to a new level, into the direction of social cognition.

The additional result, which says that individuals allocate more visual attention on stimuli in general while in prevention focus, is also interesting. It fits perfectly to the
prediction of regulatory focus theory, which claims that people in promotion focus are faster, more efficient and prone to gains and positives. (Förster, Higgins, & Bianco, 2003; Cesario, Grant, & Higgins, 2004). It extends this conclusion to the allocation of visual attention and implicit visual processing. Prevention focused people take a closer look on visual stimuli, can be described as state-oriented (Kuhl, 1983) and remain longer on a stimulus.

A possible alternative explanation for the results may be, that positive or negative affect are responsible for the differences at the allocation of visual attention. It could be argued that promotion focus induced positive affect and prevention focus induced negative affect and this leads to differences at the allocation of visual attention through mood priming (Bower, 1981). As the MANOVA of Panas Scale and regulatory focus showed, there were no differences between promotion and prevention focus in regard to positive or negative affect. So this alternative explanation can be suspended.

At first, this study is an important basis for following studies, which will investigate regulatory focus theory in information processing on a basal level. It approves regulatory focus theory (Higgins, 1997) and regulatory fit hypothesis (Higgins, 2000) for the allocation of visual attention on stimuli and regulatory focus theory for the allocation of visual attention on stimuli in general.

The current study can help to save lives. Soldiers and security forces, which have to decide in a very short time if a visual stimulus is friendly or hostile, can gain these extra milliseconds at the allocation of visual attention, when a stimulus is negative and threatening and they are in prevention focus. Training to get in prevention focus, before a conflict arises, can help to minimize the allocation of visual attention and therefore increases the chance of survival. The visual stimuli used in the current study
fit perfectly to aforementioned scenario described and the participants consisted only of young men, making it useful for federal armed forces or security agencies.

In the film “The thin red line” Soldier Bell and Captain Staros got different point of views and foci on things. When it suddenly comes to combat and both have to decide whether and where to shoot, Captain Staros got this little extra milliseconds of time, which can get him through the battle. "All we have to do is keep going and we'll have this hill. We'll have this hill by sundown! You see the spirit in these men? Do you see the new spirit? Well, I want to take advantage of that before something happens to sap their strength”, says Colonel Gordon Tall, placing his hope on accomplishment and gains, unconsciously weakening his soldiers reaction times.
References


55, 1217–1230.


Appendix

**RFQ (German):**

*Zutreffendes bitte ankreuzen (1-5)*

1. Verglichen mit den meisten Leuten, ist es typisch für Sie, dass sie nicht das vom Leben bekommen, was Sie wollen?

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2. Während Sie aufgewachsen sind, überschritten Sie jemals Grenzen, die ihre Eltern nicht tolerierten?

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3. Wie oft haben Sie Dinge vollbracht, die Sie dazu motiviert haben, noch härter zu arbeiten?

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4. Gingen Sie ihren Eltern oft auf die Nerven, während Sie aufgewachsen sind?

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5. Wie oft folgten Sie den Regeln und Vorschriften ihrer Eltern?

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6. Während Sie aufgewachsen sind, verhielten Sie sich jemals so, dass ihre Eltern dies anstößig fanden?

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7. Schneiden Sie oft bei verschiedenen Dingen gut ab, die Sie probieren?

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9. Wenn es um das Erreichen von Dingen geht, die mir persönlich wichtig sind, schneide Ich nicht so gut ab, wie Ich es idealerweise gerne tun würde.

11. Ich habe in meinem Leben sehr wenige Hobbys oder Aktivitäten gefunden, die mein Interesse geweckt haben oder mich dazu motiviert haben, mehr Anstrengung zu investieren.
Regulatory focus inducing instruction:

Promotion focus: „Denken sie bitte über ihre Hoffnungen, Bestrebungen und Träume der Vergangenheit nach und notieren diese bitte. Unterstreichen sie bitte die zwei für sie wichtigsten Dinge.

Nun denken sie bitte über ihre aktuellen Hoffnungen, Bestrebungen und Träume nach und notieren diese bitte. Unterstreichen sie bitte die zwei für sie wichtigsten Dinge.“

Prevention focus: „Denken sie bitte über ihre Aufgaben, Pflichten und Verantwortlichkeiten der Vergangenheit nach und notieren diese bitte. Unterstreichen sie bitte die zwei für sie wichtigsten Dinge.

Nun denken sie bitte über ihre aktuellen Aufgaben, Pflichten und Verantwortlichkeiten nach und notieren diese bitte. Unterstreichen sie bitte die zwei für sie wichtigsten Dinge.“
Regret inducing instruction:

„Jeder hat in seinem Leben schon einmal eine Situation erlebt, die man im Nachhinein bereut beziehungsweise bedauert hat.

Man fragt sich nach einer Entscheidung, ob nicht eine andere Alternative zu einem besseren Ergebnis geführt hätte (z.B. ob man einen besseren Job erhalten hätte, wenn man etwas anderes studiert hätte; das doch nicht gekaufte Haus am Land doch die bessere Wahl gewesen wäre, im Gegensatz zur gekauften Wohnung in der Großstadt).

Es kann auch sein, dass man allgemein bedauert, etwas getan oder nicht getan zu haben (z.B. in etwas viel investiert und verloren zu haben trotz Wissen um das finanzielle Risiko; zu früh geheiratet zu haben).

Denken sie bitte nun an jene wichtige Situation im Leben zurück, wo sie am meisten Bedauern empfunden haben. Versuchen Sie, sich wieder in diese Situation hineinzusetzen. Bitte notieren sie das Erlebte für sich selbst schriftlich. Die Notiz wird vom Testleiter nicht ausgewertet, sie dient nur dazu, das Erlebte besser zu strukturieren.

Versuchen sie bitte, sich so gut wie möglich in die damalige Situation und die damals empfundenen Gefühle hineinzusetzen.“
SAM scale:

Valence: „Bitte geben Sie anhand der unten dargestellten Bilder an, wie Sie sich momentan fühlen.

Kreuzen Sie die ganz links abgebildete lachende Figur an, wenn Sie sich extrem gut fühlen, was beinhalten kann dass Sie sich extrem glücklich, erfreut, zufrieden, hoffnungsvoll und/oder entspannt fühlen.

Kreuzen Sie die ganz rechts abgebildete Figur an, wenn Sie sich extrem schlecht fühlen, was beinhalten kann dass Sie sich extrem unglücklich, verärgert, unzufrieden, verzweifelt und/oder gelangweilt fühlen.“

Arousal: „Bitte geben Sie nun anhand der unten dargestellten Bilder an, wie stark Sie sich momentan erregt fühlen.

Kreuzen Sie die ganz links abgebildete Figur an, wenn Sie sich extrem erregt fühlen, was beinhalten kann, dass Sie sich extrem wach, aufgeregt, angeregt, nervös, aktiviert und/oder angespannt fühlen.

Kreuzen Sie die ganz rechts abgebildete Figur an, wenn Sie sich extrem ruhig fühlen, was beinhalten kann, dass Sie sich extrem lethargisch, passiv, müde, friedlich, apathisch und/oder entspannt fühlen.“
PANAS Scale:


Geben sie bitte an, wie Sie sich im Moment fühlen.“
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**Regret questionnaire:**

„Bitte geben Sie nun an, wie stark die folgenden Aussagen jeweils auf das Ereignis zutreffen, das Sie gerade beschrieben haben:“

<table>
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<tr>
<th>Wenn ich an dieses Ereignis zurückdenke, bereue ich, dass …</th>
<th>1=trifft überhaupt nicht zu</th>
<th>11=trifft sehr stark zu</th>
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<tbody>
<tr>
<td>ich ein besseres Ergebnis hätte erzielen können, wenn ich mich anders verhalten hätte.</td>
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<tr>
<td>ich über mein Verhalten nicht sorgfältig genug nachgedacht habe.</td>
<td>1 2 3 4 5 6 7 8 9 10 11</td>
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<tr>
<td>ich eine Chance verpasst habe.</td>
<td>1 2 3 4 5 6 7 8 9 10 11</td>
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<tr>
<td>ich die Anforderungen, die in dieser Situation an mich gestellt wurden, nicht erfüllt habe.</td>
<td>1 2 3 4 5 6 7 8 9 10 11</td>
<td></td>
</tr>
<tr>
<td>ich eine Herausforderung nicht angenommen habe.</td>
<td>1 2 3 4 5 6 7 8 9 10 11</td>
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<tr>
<td>ich meinen eigenen Ansprüchen in dieser Situation nicht gerecht geworden bin.</td>
<td>1 2 3 4 5 6 7 8 9 10 11</td>
<td></td>
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<tr>
<td>ich meine eigenen Vorstellungen und Ideen nicht umgesetzt habe.</td>
<td>1 2 3 4 5 6 7 8 9 10 11</td>
<td></td>
</tr>
<tr>
<td>ich aufgrund meines Verhaltens von anderen negativ beurteilt worden bin.</td>
<td>1 2 3 4 5 6 7 8 9 10 11</td>
<td></td>
</tr>
<tr>
<td>ich mich aufgrund meines Verhaltens</td>
<td>1 2 3 4 5 6 7 8 9 10 11</td>
<td></td>
</tr>
<tr>
<td>Ich habe mir nicht wirklich ein Ereignis vorgestellt, dass ich bedauert habe</td>
<td>JA</td>
<td>NEIN</td>
</tr>
</tbody>
</table>
Curriculum vitae

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05-07/2012 Praktikum bei der psychologischen
Markencoachingfirma „Brand Neu“
Aufbereitung und Darstellung von statistischen
Ergebnissen und Mitarbeit an Motiv- und
Markenforschung

08/2011 Praktikum beim Marktforschungsinstitut
„Wissma“
Aufbereitung von qualitativen Daten,
Berichterstellung in Powerpoint, Bereinigung
von Kundendaten, Auswertung empirischer
Daten

12/2010 Testleiter bei der AID3
Normierungserhebung in Österreich –
Volksschule Hart

09/2008-4/2011 Interviewwertigkeit beim Markt- und
Markenforschungsinstitut „marketmind“
Telefoninterviews von Firmenkunden,
Interviews von Privatpersonen, „lifestyle“
Interviews.
07-08/2008  Praktikum „Neue Wege Wels“
Bewerbungsunterstützung für (alkohol- und
drogengefährdete/-abhängige)
langzeitarbeitslose Personen mit
psychosozialen Beeinträchtigungen

05/2007-01/2008  Tätigkeit bei diversen Promotionagenturen
Verkauf, Eventbetreuung, Promotion

08/2006  Ferialjob bei der Autovermietungsfirma „Sixt“
Überstellungen von PKWs in Österreich

07-08/2005  Ferialjob bei der Autovermietungsfirma „Budget“
Überstellungen von PKWs in Österreich und dem Ausland

07-08/2004  Ferialjob bei der Autovermietungsfirma „Budget“
Überstellungen von PKWs in Österreich und dem Ausland

07-08/2003  Ferialjob bei der Autovermietungsfirma „Budget“
Überstellungen von PKWs in Österreich und dem Ausland

07/2002  Ferialjob in der Motorenfabrik „Rotax“
diverse Tätigkeiten
08/2001  Ferialjob in der Motorenfabrik „Rotax“
Bearbeiten von Daten im Büro

07/2000  Ferialjob in der Motorenfabrik „Rotax“
Hilfstätigkeit beim Flugzeugmotorenbau

SONSTIGES

Fremdsprachen:  Englisch, Französisch (Grundkenntnisse)

Computerkenntnisse:  SPSS, Photoshop, Office (Excel, Word, PowerPoint, Excel)

Interessengebiete:  Sport, Motorrad, Klavier, Lesen, Technik, Ausgehen, Kino