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Positive fantasies and negative emotions in soccer fans

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ABSTRACT

Positive thinking is often assumed to foster effort and success. Research has shown, however, that positive thinking in the form of fantasies about achieving an idealised future predicts less (not more) effort and success and more (not less) depressive symptoms over time. This relationship was mediated by people having invested little effort and achieved little success. Here, we ask a different question. We investigate the emotional consequences of positive fantasies about futures that people cannot act on. Specifically, we analyse these consequences when the future fantasies fail to come true (one's favourite soccer team loses). Study 1 provided correlational evidence. The more positively soccer fans fantasised about their favourite team winning an upcoming match, the stronger were their negative emotions when their team lost. That is, the more sad, disappointed, and frustrated they felt. Study 2 provided experimental evidence. Soccer fans who were led to fantasise positively about their team winning an upcoming match reported feeling stronger negative emotions after their team lost than those who were led to fantasise negatively. Positive fantasies were not related to how positive participants felt after their team won (joy, happiness, relief). We discuss theoretical and applied implications for emotion regulation in everyday life.

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Watching sports triggers intense emotions. After watching their team win, soccer fans feel cheerful, euphoric, and on top of the world; after watching their team lose, they feel crestfallen, desperate, and depressed. Many sports fans value these emotional experiences (Oshimi, 2015). Nevertheless, feeling severe negative emotions after watching sports is aversive and carries over to other life domains. Fans who experienced negative emotions after seeing their team lose reported reduced work performance (Gkorezis, Bellou, Xanthopoulou, Bakker, & Tsiftis, 2016) and even reduced life-satisfaction (Schwarz, Strack, Kommer, & Wagner, 1987). Illuminating the psychological factors that foster negative emotions after watching competitive sports events may help attenuate overly negative emotions.

We investigated how thinking about an upcoming sports event influences emotions after the event. Specifically, we examined the relationship between

positive fantasies about the outcome of a soccer match and negative (and positive) emotions after the match. Because overly positive fantasies about a desired outcome may lead to later disappointment in case of failure, we suspected that soccer fans who fantasised positively about a match outcome, felt stronger negative emotions when their team lost.

Positive fantasies about the future

Positive fantasies about the future are thoughts and images that depict a possible future in an idealised way (Oettingen & Mayer, 2002). Positive fantasies resemble daydreams (Klinger, 1971), episodic simulations of positive future events (Schacter, Benoit, De Brigard, & Szpunar, 2015) or mental time travel into a positive future (D'Argembeau & Van der Linden, 2004). They differ from what Lewin (1926) called magic thinking, which refers to imagining events

that go against natural laws (e.g. imagining being able to fly). Positive fantasies frequently occur in everyday life (D'Argembeau, Renaud, & Van der Linden, 2011). Indeed, when people think about their personal future, they tend to do so in a positive way (Sevincer, Tessmann, & Oettingen, 2018; Singer, 1966).

Positive fantasies may pertain to desired futures most people think they can act upon (getting a good grade, improving one's diet) or to desired futures that most people think they cannot act upon (witnessing one's team win, getting nice weather). When positive fantasies focus on events people can bring about by acting, they predict less rather than more effort and success in fulfilling the desired events. For instance, the more university graduates experienced positive fantasies about getting an attractive job the fewer job applications they sent out, the fewer offers they received, and the less money they earned two years later (Oettingen & Mayer, 2002). Positive fantasies also predicted little success in other domains, such as interpersonal relations (Oettingen & Mayer, 2002), academic performance (Kappes, Oettingen, & Mayer, 2012a), economic development (Sevincer, Wagner, Kalvelage, & Oettingen, 2014), physical health (Oettingen & Wadden, 1991), and mental health (Oettingen, Mayer, & Portnow, 2016). Positive fantasies predicted low success partly because they prevented people from preparing for possible difficulties and from investing effort (summary by Oettingen & Sevincer, 2018). Relatedly, students who were asked to positively envision academic success initiated fewer problem-solving strategies and made less effective plans than those who envisioned detailed steps on the way to success (Taylor, Pham, Rivkin, & Armor, 1998).

Positive future fantasies are different from positive expectations about the future (Oettingen & Mayer, 2002; Oettingen, Sevincer, & Gollwitzer, 2018; Szpunar, Shrikanth, & Schacter, 2018). Expectations are likelihood judgements that the desired event will occur (Atkinson, 1957; Carroll, 1978) and may also pertain to events people can or cannot act upon. When people estimate the likelihood of events they can act upon, they rely on their past performance history, vicarious performances, persuasive messages from others, and their own physiological states (Bandura, 1997). When they estimate the likelihood of events they cannot act upon, they rely on their general knowledge and heuristics (Gigerenzer, 2008). Positive fantasies in contrast do not depend on the judged likelihood of the event – people can envision

events they deem unlikely or even impossible to achieve (becoming a rock star) or that they deem unlikely or impossible to happen (the outsider winning the race).

Here, rather than investigating the effect of positive fantasies about a desired future people can act upon on effort and success in fulfilling this future, we explore how positive fantasies impact people's emotions in case a desired future they cannot act upon fails to come true.

Positive fantasies about the future and emotions

When people fantasise positively about the future, they experience positive emotions at the moment (Golding & Singer, 1983; Singer, 1966). Positively fantasising may backfire in the long run however. In several studies, Oettingen et al. (2016) measured to what extent children and adults fantasised positively in several life domains (achievement, health, interpersonal relations). The positivity of fantasies was measured using both a semi-projective technique, in which participants completed scenarios about the future provided by the experimenters, and a diary method, in which participants were beeped throughout the day and recorded their spontaneous thoughts about the future. Positive fantasies related to positive emotions concurrently but predicted more symptoms of depression over time (1 to 7 months after the fantasies were assessed). Importantly, the relationship between positive fantasies and later symptoms of depression was partially mediated by low achievement. That is, in line with research showing that positive fantasies predict low success in fulfilling the desired future (summary by Oettingen & Sevincer, 2018), the participants who fantasised more (vs. less) positively about successfully attaining the desired future (e.g. finishing an important study project), were less successful in attaining the desired future and this made them feel worse later on.

In another study, students who thought negatively rather than positively about their grade in an important exam (they ruminated and had anxious and pessimistic thoughts) while waiting for their grade felt weaker negative emotions (less unpleasant surprise) in case they received a bad grade and stronger positive emotions in case they received a good grade (Sweeny, Reynolds, Falkenstein, Andrews, & Dooley, 2016). Further, participants who thought positively about changing a personal attribute (e.g. being more

confident) were more at risk to attempt suicide when the hoped-for change turned out to be impossible (O'Connor, Smyth, & Williams, 2015).

Previous research on positive fantasies measured positive fantasies about desired events people could bring about by acting. For example, research looked at the relation between such positive fantasies and depressive symptoms over time. By contrast, here, we measured and manipulated positive fantasies about desired future events people *cannot bring about by acting* (the outcome of soccer matches) and looked at participants' negative (and positive) emotions in response to whether the desired events did or did not come true (one's favourite team won or lost).

The present research

We investigated whether soccer fans who fantasised positively about the outcome of an important match experienced stronger negative emotions after their team lost. Because many scientists highlight the importance of studying psychological phenomena in naturalistic situations during people's everyday life (Paluck & Cialdini, 2014; Skitka, 2019), we conducted two field studies, one correlational (Study 1) and one experimental (Study 2), in local bars in which soccer matches were broadcasted.

In Study 1, we measured the positivity of fantasies using a semi-projective technique adapted from Oettingen and Mayer (2002) and Oettingen et al. (2016). Directly before a match, we prompted participants to imagine the match outcome and asked them how positive (and negative) their thoughts were. In Study 2, we manipulated positive (vs. negative) fantasies about a match outcome by asking participants to imagine either the best possible or the worst possible outcome.

In both studies, as a dependent variable, directly after the match, we assessed to what extent participants experienced three negative emotions (sadness, frustration, disappointment). Because valence of emotions contains negativity and positivity as two distinct dimensions (Watson, Clark, & Tellegen, 1988), we also measured to what extent they experienced three positive emotions (happiness, joy, relief) using separate scales.

Because people feel more disappointed when their team loses the higher their incentive of winning is (subjective importance; Rainey, Larsen, & Yost, 2009; Rainey, Yost, & Larsen, 2011), we controlled for

incentive. Moreover, because people feel more disappointed when the desired outcome (the result of an election) fails to come true, the higher their expectations of winning are (subjective likelihood; Krizan & Sweeny, 2013; Shepperd & McNulty, 2002; Shepperd, Falkenstein, & Sweeney, 2018), we also controlled for expectations.

Finally, we explored whether positive fantasies are related to how fair participants perceived the match to be and how aggressive they felt. We suspected that because positive fantasies would arouse stronger negative emotions in case the favoured team loses, the stronger negative emotions may lead participants to perceive the match as less fair and make them feel more aggressive. To investigate this issue, we asked participants to report how fair the match was (Studies 1 and 2) and how aggressive they felt (Study 2).

In summary, we extend previous work on future fantasies by investigating (1) the predictive relationship between future fantasies and emotions (rather than effort and success in goal pursuit), (2) outcomes participants cannot act upon (rather than outcomes they can act upon), (3) emotions in response to success or failure (rather than emotions concurrently or over time), and (4) by choosing a naturalistic setting (rather than asking participants online or by mailing them a questionnaire).

Study 1: correlational study – positive fantasies and negative emotions

Method

Participants, procedure, and design. We recruited fans of the local soccer team in a large German city. During the 2015/2016 season, we went to several local bars where fans meet to watch soccer on TV. On evenings on which a match of the local team was broadcasted the experimenter randomly approached patrons in one bar. Before the start of the broadcast, the experimenter asked the patrons whether they were interested in participating in a two-part survey on thoughts and emotions of soccer fans. A total of 329 participants completed the first part before the match. After the match, the experimenter handed them the second part. In total, 284 participants (226 male, 54 female, 4 unidentified; $M_{\text{age}} = 36.4$ years, $SD = 13.6$) also completed the second part. We discuss differences between the participants who completed the study and those who

dropped out for this and the following study in the Supplementary Material.

Power calculations using the average effect size for the relationship between positive fantasies and depressive symptoms from Oettingen et al. (2016): $r = 0.31$ yielded, we would need 104 participants to obtain 95% power (Faul, Erdfelder, Lang, & Buchner, 2007). Because we hypothesised that the more positively fans fantasised the stronger negative emotions they would feel *if their team lost* but did not know in advance how many matches the local team would lose, we aimed to recruit as many participants for as many matches as we could during the 2015/2016 season. We obtained data for 22 matches. The local team lost 13 ($n = 148$), won 4 ($n = 59$), and 5 were a draw ($n = 54$). Participants could enter a lottery to win tickets for a match of their choice.

Materials

Questionnaires before the match

Involvement in soccer. To verify participants were soccer fans, we asked: "How intensively have you been following the premier league soccer in the 2015/2016 season?" and "How much are you generally following soccer?" (five-point scales; 1 = *not at all*, 5 = *very*). Participants also reported how many hours per week they followed premier league soccer in the 2015/2016 season.

Subjective incentive of winning. To control for participants' incentive of winning, we employed three items (e.g. "How important is it to you that your team will win the match today?"), using five-point scales (e.g. 1 = *not at all*, 5 = *very*). We combined the three items into one incentive index ($\alpha = 0.77$).

Subjective expectations of winning. To control for participants' expectations of winning, we asked: "How high do you think is the likelihood that your team will win today?" (five-point scale; 1 = *very low*, 5 = *very high*), and "How difficult will the match be for your team?" (reverse coded, five-point scale; 1 = *not so difficult*, 5 = *very difficult*). We combined the two items into one expectations index ($\alpha = 0.57$).¹

Positivity of fantasies. Following previous research (Oettingen et al., 2016; Oettingen & Mayer, 2002), we used a semi-projective measure to assess fantasy positivity. Participants completed the following scenario: "Please imagine the following situation: It is only a few seconds until the end of the match. Your team ... Please write down in keywords all thoughts and images about the situation that come to your mind."

Participants wrote down their thoughts and images on the questionnaire. One participant wrote:

Our team has scored the decisive goal in the last second. My feelings are overwhelming. I feel incredibly happy and have to fight back tears of joy. This is soccer!

After that participants indicated the valence of their thoughts separately for positivity ("How positive were your thoughts and images?") and negativity ("How negative were your thoughts and images?") on five-point scales (1 = *not at all*, 5 = *very*). Because the positivity scores and the negativity scores correlated strongly ($r = -0.67$, $p = 1.82 \times 10^{-36}$), we subtracted the negativity from the positivity scores to obtain an index of fantasy positivity.

Questionnaires after the match

Strength of negative and positive emotions. After the match, participants self-reported their current emotions. We asked: "If you think about the outcome of the match, how do you feel?" Because the study was a field study in a bar, to keep the questionnaire as short as possible, depending on whether their team lost or won, participants indicated either their negative or their positive emotions. If their team lost, we asked how sad, frustrated, and disappointed they felt. If their team won, we asked how happy, joyful, and relieved they felt. If the match was a draw, we asked them to report both the three negative and the three positive emotions. We used five-point scales ranging from 1 (*not at all*), 2 (*a little*), 3 (*somewhat*), 4 (*very*) to 5 (*extremely*). We combined the three negative emotions into one negative emotion index ($\alpha = 0.92$), and the three positive emotions into one positive emotion index ($\alpha = 0.96$).

Finally, for exploratory reasons, we asked some questions about the match ("How fair was the match?"), the situation ("How much alcoholic beverages did you consume tonight?") and some demographic questions. We discuss these variables in the Supplementary Material. The questionnaires of both studies are available at: osf.io/7gu5j. Participants were fully debriefed.

Results

Descriptives. Of the 284 participants who completed both parts, we excluded 23 participants – 14 did not write down their fantasies, 7 reported not being a fan of the local team, and 2 reported having already

taken part in the study. Our final sample included 261 participants.²

Involvement in soccer. Participants' answers on how much they have been following the 2015/2016 season and soccer in general were above the midpoint of the five-point scales ($M = 3.87$, $SD = 1.14$, and $M = 3.54$, $SD = 1.10$). They reported spending on average 5.5 h ($SD = 4.44$) per week following soccer (after we removed 11 extreme outliers – values three times above the 75th percentile). Thus, we successfully recruited participants who were enthusiastic about soccer.

Subjective incentive of winning. Mean incentive was at 4.19 ($SD = 0.85$) of the five-point scale, indicating participants strongly cared about whether their team wins or loses.

Subjective expectations of winning. Expectations were around the midpoint of the five-point scale ($M = 3.02$, $SD = 0.90$), indicating participants were moderately confident their team will win. Expectations did not differ between matches that were won, those that were lost, and those that were a draw, $F(2, 258) = 2.31$, $p = 0.102$, suggesting that in line with earlier findings (Andersson, Edman, & Ekman, 2005) fans' predictions about match outcomes were not very accurate.

Fantasies before the match. Fantasy positivity was above ($M = 3.72$, $SD = 1.19$) and their negativity was below the midpoint of the five-point scale ($M = 2.16$, $SD = 1.09$). The overall index of fantasy positivity (negativity subtracted from positivity) was above zero ($M = 1.56$, $SD = 2.08$), $t(260) = 12.07$, $p = 3.72 \times 10^{-27}$, indicating that fantasies were more positive than negative.

Relationship between fantasies before the match and emotions after the match. When their team lost, participants reported stronger negative emotions ($M = 3.13$, $SD = 1.26$) than when the match was a draw ($M = 2.64$, $SD = 1.17$), $t(200) = 2.46$, $p = 0.015$. When their team won, they reported stronger positive emotions ($M = 4.14$, $SD = 0.83$) than when the match was a draw ($M = 1.77$, $SD = 0.88$), $t(111) = 14.73$, $p = 7.04 \times 10^{-28}$.

Fantasy positivity and negative emotions when the local team lost. Simple regression analyses revealed that, as hypothesised, the more positively participants fantasised before the match, the stronger negative emotions they felt after their team lost, $b = 0.23$, $t(146) = 4.63$, $p = 0.000008$, 95% CI [0.13, 0.33], $d = 0.77$.

To control for subjective incentive of winning and expectations, we conducted hierarchical regression analyses. In the first step, we entered incentive and

expectations as predictors. As can be seen in Table 1 (upper part), both incentive and expectations predicted negativity of emotions. The more important winning was to the participants and the more likely they thought winning was the stronger negative emotions they felt if their team lost. When we added fantasy positivity as a predictor in the second step, it predicted negative emotions over and above incentive and expectations, indicating the relationship between fantasy positivity and negative emotions remained robust.

Fantasy positivity and positive emotions when the local team won. We conducted analogous analyses as above. Fantasy positivity did not predict the strength of the positive emotions, $t(57) = 1.55$, $p = 0.13$. Hierarchical regression analyses revealed that both incentive and expectations (marginally) predicted positive emotions. The more important winning was to the participants and the less likely they thought it was the stronger positive emotions they felt when their team won. Fantasy positivity added as a predictor in the second step did not predict positive emotions (Table 1, lower part).

Explorative analyses: fairness. Participants perceived matches their team won as fairer than matches their team lost and those that were a draw. The positivity of their fantasies was not related to their perceptions of fairness. However, the more negative participants felt after losses the less fair they perceived the match to be, and the more positive they felt after wins the more fair they perceived the match to be. An analogous pattern emerged in Study 2. The analyses are presented in the Supplemental Material.

Discussion

The more positively soccer fans fantasised about a match outcome, the stronger were their negative emotions after their team lost. The size of the relationship was large ($r = 0.36$ transformed into $d = 0.77$; Cohen, 1988). When their team won, positivity of fantasies was not related to participants' positive emotions. Apparently, more positive fantasies entailed stronger negative emotions in case of failure but more negative fantasies did not entail stronger positive emotions in case of success.

In line with earlier findings (Rainey et al., 2009, 2011), the more important winning was to the participants and the more likely they thought winning was, the stronger were their negative emotions after losses. Regarding the positive emotions after wins,

Table 1. Study 1: summary of hierarchical regression analyses for subjective incentive of winning, subjective expectations of winning, and positivity of fantasies predicting strength of the negative emotions after lost matches (upper part) and strength of positive emotions after won matches (lower part).

| Predictors | ΔR^2 | <i>B</i> | SE <i>B</i> | β | <i>p</i> | 95% CI |
|--------------------------------------|--------------|----------|-------------|---------|-----------|---------------|
| Negative emotions after lost matches | | | | | | |
| Step 1 | 0.32* | | | | | |
| Incentive of winning | | 0.53 | 0.10 | 0.39 | 0.0000001 | [0.34, 0.72] |
| Expectations of winning | | 0.51 | 0.10 | 0.37 | 0.0000004 | [0.32, 0.70] |
| Step 2 | 0.05* | | | | | |
| Incentive of winning | | 0.47 | 0.09 | 0.34 | 0.0000002 | [0.28, 0.66] |
| Expectations of winning | | 0.46 | .10 | 0.34 | 0.0000004 | [0.27, 0.65] |
| Positivity of fantasies | | 0.14 | 0.05 | 0.33 | 0.002 | [0.05, 0.23] |
| Positive emotions after won matches | | | | | | |
| Step 1 | 0.34* | | | | | |
| Incentive of winning | | 0.69 | 0.13 | 0.60 | 0.0000001 | [0.44, 0.95] |
| Expectations of winning | | −0.17 | 0.10 | −0.19 | 0.09 | [−0.36, 0.03] |
| Step 2 | 0.01 | | | | | |
| Incentive of winning | | 0.71 | 0.15 | 0.61 | 0.000001 | [0.41, 1.00] |
| Expectations of winning | | −0.16 | 0.11 | −0.18 | 0.14 | [−0.37, 0.06] |
| Positivity of fantasies | | −0.01 | 0.05 | −0.03 | 0.85 | [−0.12, 0.10] |

* $p < 0.05$.

the more important winning was to the participants and the *less* likely they thought winning was, the stronger were their positive emotions. The relationship between fantasy positivity and negative emotions remained robust when controlling for incentive and expectations.

Study 1 provided correlational evidence for the relationship between positive fantasies and negative emotions in case of failure. In Study 2, we used an experimental design to test whether positive fantasies causally lead to stronger negative emotions after the match. Moreover, in Study 1, participants were fans of one single soccer club. To test whether the relationship between fantasy positivity and negative emotions also emerges in fans from other clubs, in Study 2, we tested fans from several clubs in the respective cities. Finally, in Study 1, we assessed the negativity of emotions if the local team lost and the positivity of emotions if the local team won; in Study 2, we assessed both the negativity and the positivity of emotions after losses and wins.

Study 2: experimental study – effect of positive fantasies on negative emotions

Method

Participants, procedure, and design. We collected data during the 2017/2018 soccer season in bars in several German cities that broadcasted a match of the local team. As in Study 1, we randomly approached patrons before the broadcast and asked them whether they were interested in

participating in a two-part survey on thoughts and emotions of soccer fans. A total of 292 participants completed the first part before the match. After the match, the experimenter handed them the second part. In total, 237 (189 male, 46 female, 2 unidentified; $M_{\text{age}} = 38.9$ years, $SD = 15.4$) also completed the second part.

The study used two experimental conditions (positive fantasy vs. negative fantasy). Power calculations using the observed effect size from Study 1 ($d = 0.77$) yielded that we would need about 38 participants per group to obtain 95% power (Faul et al., 2007). Because as in Study 1, we did not know in advance how many matches would be lost, won, or end as a draw, we aimed to recruit as many participants as we could during the 2017/2018 season. We obtained data for 23 matches. The local team lost 10 ($n = 91$), won 6 ($n = 73$), and 7 were a draw ($n = 73$). Participants could enter a lottery to win tickets for a soccer match of their choice.

Materials

Questionnaires before the match

Involvement in soccer. To verify participants were soccer fans, we asked: “How intensively are you following the premier league in the 2017/2018 season?” (five-point scale; 1 = *not at all*, 5 = *very*) and “How much do you follow your team during the season by any one of the following means: in the stadium, in radio, in TV, or in the printed news?” (five-point scale; 1 = *never*, 5 = *almost every day*).

Subjective incentive of winning. We asked: “How important is it to you that your team will win the match today?” and “How much do you see yourself as a fan of your team?” (five-point scales; 1 = *not at all*, 5 = *very*). We combined the two items into one index ($\alpha = 0.69$).

Subjective expectations of winning. We asked: “How high do you think is the likelihood that your team will win today?” (five-point scale; 1 = *very low*, 5 = *very high*), and “How difficult will the match be for your team?” (reverse coded; five-point scale; 1 = *not so difficult*, 5 = *very difficult*). We combined the two items into one index ($\alpha = 0.61$).

Baseline: strength of negative and positive emotions. We used the same items and scales as in Study 1, but now all participants reported the strength of their negative and positive emotions. We combined the three negative emotions into one baseline negative-emotion index ($\alpha = 0.86$), and the three positive emotions into one baseline positive-emotion index ($\alpha = 0.72$).

Fantasy manipulation. In the positive-fantasy condition, participants read the following scenario:

Please imagine the following situation: It is only a few seconds until the end of the match. The match went extremely well for your team. Please write down in keywords all thoughts and images about the situation that come to your mind.

One participant wrote:

My team just earned three points. We moved up in the league. I feel loyal to my team and am happy that my team won and that we played an incredible match.

In the negative-fantasy condition, the second sentence was replaced by “The match went extremely bad for your team”. One participant wrote:

The players lacked concentration and passion. Our team needs to buy better players. They should fire the trainer. Why can't they play better soccer?

As a manipulation check, participants indicated the valence of their thoughts separately for positivity and negativity using the same items and scales as in Study 1. As in Study 1, because positivity and negativity scores strongly correlated ($r = -0.77$, $p = 8.66 \times 10^{-47}$), we subtracted the negativity from the positivity scores to obtain an overall index of fantasy positivity.

Questionnaires after the match

Dependent variable: strength of negative and positive emotions. Participants reported how strongly they

felt the three negative and three positive emotions using the same items as at baseline. Again, we combined the three negative emotions into one negative-emotion index ($\alpha = 0.92$), and the three positive emotions into one positive-emotion index ($\alpha = 0.93$).

As in Study 1, we asked several questions about the match and the situation. For example, we explored whether the participants who fantasised positively (vs. negatively) felt more aggressive. Positive fantasies did not affect feelings of aggression. The measures and analyses are described in the Supplemental Material. Participants were fully debriefed.

Results

Descriptive statistics. Of the 237 participants who completed both parts of the questionnaire, we excluded five participants – three did not write down their fantasies and two reported having already taken part. Our final sample thus included 232 participants.³

Involvement in soccer. Participants' answers on how intensively they were following the 2017/2018 soccer season and their team, were above the midpoint of the five-point scales ($M = 4.31$, $SD = 0.88$, and $M = 4.24$, $SD = 0.90$), indicating that participants were enthusiastic about soccer. Participants' scores did not differ between conditions, $t_s < 0.74$, $p_s > 0.45$.

Subjective incentive of winning. Mean incentive was at 4.35 ($SD = 0.75$) of the five-point scale, indicating participants strongly cared about whether their team wins or loses. Incentive did not differ between conditions, $t(229) = 0.52$, $p = 0.61$.

Subjective expectations of winning. Expectations were around the midpoint of the five-point scale ($M = 2.67$, $SD = 0.91$), indicating that participants were moderately confident their team wins. A priori expectations differed between the matches that were won, those that were lost, and those that were a draw, $F(2, 229) = 13.71$, $p = 0.000002$. Expectations were higher for won matches ($M = 2.94$, $SD = 0.91$) and lost matches ($M = 2.82$, $SD = 0.82$) than for drawn matches ($M = 2.24$, $SD = 0.88$), $p = 0.000006$, and $p = 0.00004$, respectively. Expectations did not differ between won matches and lost matches, $t(158) = 0.85$, $p = 0.40$. Apparently, as in Study 1, the fans' predictions about match outcomes were not very accurate. Expectations did not differ between conditions, $t(230) = 0.97$, $p = 0.33$.

Manipulation check. Participants in the positive-fantasy condition fantasised more positively ($M = 2.47$, $SD = 1.71$) than those in the negative-fantasy

condition ($M = -0.84$, $SD = 2.15$), $t(229) = 12.91$, $p = 5.22 \times 10^{-29}$. Moreover, in the positive-fantasy condition, the fantasy-positivity index was above zero, $t(112) = 15.33$, $p = 2.80 \times 10^{-29}$, whereas in the negative-fantasy condition, it was below zero, $t(117) = 4.24$, $p = 0.00004$. This pattern indicates that the manipulation was successful.

Effect of fantasies before the match on emotions after the match. As can be seen in Table 2 (right column) across conditions, after lost matches participants reported stronger negative emotions and weaker positive emotions than after drawn matches and after won matches, $ps < 1.62 \times 10^{-9}$.

Positive fantasies and negative emotions when the local team lost. A repeated measures GLM with negative emotions from baseline to after the match as within-subject factor and condition (fantasy: positive vs. negative) as between-subject factor revealed a main effect of measurement time, $F(1, 87) = 10.54$, $p = 0.002$, $\eta p^2 = 0.11$, indicating negative emotions increased from baseline to after the lost match. We also observed the predicted fantasy condition by measurement time interaction effect, $F(1, 87) = 4.15$, $p = 0.045$, $\eta p^2 = 0.05$. Follow-up analyses using paired t -tests and inspection of the means (Table 2) revealed that in the positive-fantasy condition negative emotions increased from baseline to after the lost match, $t(32) = 3.55$, $p = 0.001$. In the negative-fantasy condition by contrast negative emotions did not change, $t(57) = 1.03$, $p = 0.31$. Apparently, when the local team lost, fantasising positively (vs. negatively) about the match led participants to experience stronger negative emotions.

To examine whether the observed interaction effect remained robust when controlling for incentive and expectations, we added the incentive index and the expectations index as covariates into the model. As can be seen in Table 3 (upper part), we observed

Table 3. Study 2: general linear models for fantasy condition, subjective incentive of winning, and subjective expectations of winning predicting change of negative emotions from baseline to after lost matches (upper part) and change of positive emotions from baseline to after won matches (lower part).

| Source | <i>df</i> | <i>F</i> | η | <i>p</i> |
|--------------------------------------|-----------|----------|--------|----------|
| Negative emotions after lost matches | | | | |
| Between subjects | | | | |
| Fantasy condition (C) | 1 | 0.01 | 0.00 | 0.95 |
| Incentive of winning (I) | 1 | 15.15 | 0.15 | 0.00001 |
| Expectations of winning (E) | 1 | 9.13 | 0.10 | 0.003 |
| Error | 85 | (1.11) | | |
| Within subjects | | | | |
| Measurement time (T) | 1 | 3.18 | 0.036 | 0.078 |
| T \times C | 1 | 3.50 | 0.040 | 0.065 |
| T \times I | 1 | 6.77 | 0.074 | 0.011 |
| T \times E | 1 | 0.05 | 0.001 | 0.82 |
| Error | 85 | (0.87) | | |
| Positive emotions after won matches | | | | |
| Between subjects | | | | |
| Fantasy condition (C) | 1 | 1.14 | 0.02 | 0.29 |
| Incentive of winning (I) | 1 | 6.94 | 0.09 | 0.01 |
| Expectations of winning (E) | 1 | 1.76 | 0.03 | 0.189 |
| Error | 67 | (0.36) | | |
| Within subjects | | | | |
| Measurement time (T) | 1 | 0.26 | 0.004 | 0.61 |
| T \times C | 1 | 0.58 | 0.009 | 0.32 |
| T \times I | 1 | 15.66 | 0.19 | 0.0001 |
| T \times E | 1 | 1.02 | 0.015 | 0.32 |
| Error | 67 | (0.36) | | |

Note: Values in parenthesis represent mean square errors.

main effects of measurement time (marginal), incentive, and expectations. There was also an interaction effect of time by incentive. Overall, the pattern indicates that the negative emotions increased from baseline to after the lost match and they increased more strongly the more important winning was to the participants. Moreover, as in Study 1, the more likely the participants thought their team will win, the stronger negative emotions they felt after their team lost. The predicted interaction effect of condition by measurement time remained marginally significant. We note, however, that the achieved

Table 2. Study 2: means and standard deviations (in parenthesis) for the strength of negative and positive emotions between the two fantasy conditions (positive vs. negative) before and after the match depending on the match outcome for the local team.

| Outcome | Condition | | | | | | | | |
|--------------------------|------------------|-------------|-------------|------------------|-------------|-------------|----------|-------------|-------------|
| | Positive fantasy | | | Negative fantasy | | | Overall | | |
| | <i>n</i> | Before | After | <i>n</i> | Before | After | <i>n</i> | Before | After |
| <i>Negative emotions</i> | | | | | | | | | |
| Lost | 32 | 2.89 (0.89) | 3.68 (1.05) | 57 | 3.14 (1.04) | 3.31 (1.22) | 89 | 3.05 (0.99) | 3.45 (1.17) |
| Draw | 39 | 2.74 (0.90) | 1.98 (1.09) | 33 | 2.81 (0.95) | 1.86 (1.05) | 72 | 2.77 (0.92) | 1.93 (1.07) |
| Won | 42 | 3.25 (0.97) | 1.11 (0.33) | 29 | 3.64 (0.75) | 1.03 (0.19) | 71 | 3.41 (0.90) | 1.08 (0.28) |
| <i>Positive emotions</i> | | | | | | | | | |
| Lost | 32 | 1.14 (0.29) | 1.33 (0.77) | 57 | 1.49 (0.77) | 1.41 (0.66) | 89 | 1.36 (0.66) | 1.39 (0.70) |
| Draw | 39 | 1.61 (0.82) | 2.56 (1.04) | 33 | 1.71 (1.05) | 2.73 (1.17) | 72 | 1.65 (0.93) | 2.64 (1.10) |
| Won | 42 | 1.37 (0.57) | 4.25 (0.86) | 29 | 1.20 (0.40) | 4.13 (0.60) | 71 | 1.30 (0.51) | 4.20 (0.76) |

power in Study 2 (85%, *post hoc* power analyses; Faul et al., 2007) was moderate; results should be interpreted with caution.

Positive fantasies and positive emotions when the local team won. We conducted analogous analyses as above. We observed a main effect of measurement time, $F(1, 69) = 651.71$, $p = 7.07 \times 10^{-37}$, $\eta p^2 = 0.90$, indicating that the positive emotions increased from baseline to after won matches. We did not observe an interaction effect of fantasy condition by measurement time, $F(1, 69) = 0.65$, $p = 0.80$.

As can be seen in Table 3 (lower part), when we added the incentive index and the expectations index as covariates into the model, we observed a main effect of incentive. There was also a non-significant trend for a main effect of expectations. Moreover, we observed an interaction effect of measurement time by incentive. Overall, the pattern indicates that after wins the positive emotions increased more strongly the more important winning was to the participants. Moreover, the less likely participants thought winning was, the more positively they tended to feel if their team won. The latter relationship was not statistically significant, however. Finally, the interaction effect of measurement time by condition remained non-significant.

Positive emotions after losses and negative emotions after wins. Positive emotions after losses and negative emotions after wins were very low (Table 2). We explored whether positive fantasies affect the positive emotions after losses and the negative emotions after wins. We did not observe a consistent pattern. We present the analyses and discuss the results in the Supplementary Material.

Discussion

Soccer fans who were induced to fantasise positively about a match outcome felt stronger negative emotions after their team lost than fans who were induced to fantasise negatively. The effect size was medium ($d = 0.46$). When their team won, participants' positive fantasies had no effect on the strength of their positive emotions. Apparently, positive (vs. negative) fantasies about the desired outcome led to stronger negative emotions after failure but had no effect on positive emotions after success. This pattern mirrors the results in Study 1.

Further, as in Study 1 and consistent with earlier findings (Rainey et al., 2009, 2011), the more important winning was to the participants the more negatively

they felt if their team lost and the more positively they felt if their team won. Moreover, the more likely they thought to win, the more negatively they felt when their team lost and the less positive they felt if their team won. The latter relationship between high expectations and less positive feelings after wins was in the same direction as in Study 1 but non-significant however. As in Study 1, the effect of positive (vs. negative) fantasies on the strength of negative emotions remained robust when controlling for incentive and expectations.

General discussion

In two field studies, soccer fans who fantasised positively rather than negatively about a match outcome felt stronger negative emotions after their team lost. Study 1 provided correlational evidence, and Study 2 suggested a causal effect of positive fantasies on negative emotions. We observed this pattern in a naturalistic setting (sports bars), for fans of different teams, and in different cities. The relationship remained robust over and above participants' incentive and their expectations of winning. Positive fantasies were not related to positive emotions after wins.

Theoretical and applied implications

Our findings add to the literature on positive fantasies by suggesting a relationship between positive fantasies about desired outcomes people cannot act upon and stronger negative emotions when the outcomes fail to materialise. They also provide evidence for the causal nature of this relationship in a naturalistic setting.

Our findings provide advice on how to avoid unwelcome frustration when watching sports: Take a more sceptical rather than overly idealistic outlook. This advice comes with a caveat, however. Because people feel good at the moment while fantasising positively (Oettingen et al., 2016) they have to trade-off these concurrent good feelings with the possible frustration later.

Positive vs. negative fantasies

In Study 1, participants' fantasies were more positive than negative, and in Study 2, their positive fantasies in the positive-fantasy condition were higher in magnitude than their negative fantasies in the negative-fantasy condition. This pattern is in line with research

suggesting that people tend to think positively rather than negatively about future events in their everyday life (Sharot, 2012). In explaining the pattern, we speculate that because positive fantasies originate from needs and fans have a strong need to see their team win, they fantasise positively rather than negatively about a match outcome.

Given that it may come easier to fans to fantasise positively rather than negatively about a match outcome, one may argue that, in Study 2, the participants in the positive-fantasy condition had a task that was more in line with their spontaneously occurring thoughts, whereas those in the negative-fantasy condition had to override their positive fantasies with more negative fantasies.

The fact that we observed more negative emotions after the match in the positive-fantasy condition than in the negative-fantasy condition suggests however that the negative-fantasy manipulation was persistent enough to impact emotions after the match. Future research should assess participants' spontaneously occurring fantasies during matches to investigate whether participants in the negative-fantasy condition indeed fantasised negatively during the match or returned to more positive fantasies.

Fantasies vs. expectations

Fantasies and expectations predicting negative and positive emotions. Positive fantasies predicted stronger negative emotions after losses. In line with earlier findings (Rainey et al., 2009, 2011), positive (high) expectations also predicted stronger negative emotions after losses. Importantly, both positive fantasies and positive expectations independently predicted stronger negative emotions.

A different pattern emerged for the positive emotions after wins: While the valence of the fantasies was unrelated to the positive emotions after wins, negative (low) expectations did predict stronger positive emotions after wins (in Study 1, in Study 2 there was a non-significant trend in the same direction). Apparently, when future outcomes people cannot act upon are at stake, positive fantasies entail emotional drawbacks after failure, but negative fantasies have no emotional benefits after success. Though positive expectations about such outcomes also entail emotional drawbacks after failure, negative expectations have emotional benefits after success.

These findings support earlier findings and theorising that fantasies and expectations are distinct forms

of future thinking (Oettingen & Mayer, 2002). Positive fantasies originate from unsatisfied needs (Klinger, 1971). For example, thirst triggers fantasies about water (Kappes, Schwörer, & Oettingen, 2012b). Expectations in contrast originate from experiences. For example, people judge the likelihood of a team winning on the basis of its past performance.

In explaining that fantasies and expectations show the same pattern when predicting negative emotions after failure but different patterns when predicting positive emotions after success, we speculate that when the favourite team unexpectedly loses (or wins), people will update (lower or heighten) their expectations for future matches according to the respective experiences. Lowered (or heightened) expectations reveal a darker (or brighter) outlook on one's team's future perspective. Such an updated outlook should pitch people's feelings to the worse (or better).

The way how fantasies impact emotions after losses (or wins) should be different though. When people have positive fantasies and their team loses, the lost match robs people's positive fantasies and disallows them to fulfill their need for winning in their mind. People feel disappointed when the mentally experienced bright future is spoilt by the actual loss of the match. In contrast, when people have more negative fantasies, they have never satisfied their yearning for winning in their mind. Thus, when their team wins, satisfying their need for winning in reality, people should feel positive regardless of whether they had negative (or positive) fantasies.

Correspondence between fantasies and expectations. Although fantasies and expectations are different forms of future thinking, they are related. In Study 1, in line with previous findings (Oettingen & Mayer, 2002), the correlation between fantasy positivity and positive (high) expectations was $r = 0.30$, $p < 0.00001$. Because in Study 1, participants tended to spontaneously generate positive fantasies, whereas their expectations were only moderate (around the scale midpoint), one may ask why participants' fantasies were more positive than was warranted on the basis of their expectations. We speculate that this difference emerged because expectations are based on past performances whereas positive fantasies are based on needs: The participants in Study 1 were fans of one team, the HSV. At the time of the study, the HSV was on a losing streak. Thus, it is not surprising that the fans had only moderate expectations. Because fans may have a strong need to see their team win they

may tend to spontaneously generate positive fantasies about their team winning, however.

Limitations and future directions

Future work may investigate whether the observed relationship between positive fantasies and negative emotions after failure also holds for other domains including the financial domain of a booming stock market or the health domain of getting good news from the doctor. Future work may also compare positive fantasies and emotions for outcomes people cannot act upon vs. those they can act upon in the sports domain. In fantasy leagues, players can select their own line-ups and thus can influence their team's outcomes. Thus, one may compare fantasies and emotions in real vs. fantasy-league matches. Such work should include a manipulation check to assess how much the participants think they can act upon the desired outcomes. Future work should also investigate the mechanisms by which positive fantasies lead to negative emotions: When people fail to attain outcomes they could have acted on they may feel negative because they blame themselves for not having acted or having acted in the wrong way.

One may also refine the assessment of emotions. This includes measuring a greater variety of emotions, looking at how long the emotions persist after matches, and employing other emotion measures than self-report measures. Experimenters may observe and code fans' facial expressions and bodily gestures while they watch soccer in the field or assess their startle responses in the lab (Mauss & Robinson, 2009).

Conclusion

Fantasising about a sport event – imagining a thrashing victory of one's team – may backlash if the desired outcome fails to come true. People feel more disappointed, frustrated, and sad than they would have had they imaged the outcome in a more modest way. Hence, to avoid feeling overly frustrated and ultimately enjoy watching sports even more, sports fans may be well advised to keep a more balanced outlook on their teams' upcoming performance.

Notes

1. We measured expectations of winning by the perceived likelihood of winning and perceived difficulty of the

match. Although the two items were inversely related, $r = -0.39$, $p = 2.62 \times 10^{-11}$ (Study 1), and $r = -.40$, $p = 1.00 \times 10^{-12}$ (Study 2), indicating the more difficult a match was the lower participants estimated the likelihood of winning, one may argue that the two items measure different concepts. People may estimate the likelihood of winning as high even though the match is very difficult. When we analysed the two items separately the observed pattern that positive fantasies predict stronger negative emotion after losses remained significant, Study 1: $p = 0.004$, Study 2: $p = 0.024$.

2. When we included the 23 excluded participants, the observed pattern that more positive fantasies predict stronger negative emotions after losses remained significant, $p = 0.000004$.
3. When we included the 5 excluded participants, the observed pattern that participants in the positive (vs. negative) fantasy condition experienced stronger negative emotions after losses remained marginally significant, $p = 0.096$.

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No potential conflict of interest was reported by the authors.

Data availability statement

The data set associated with this paper is available at: osf.io/7gu5j.

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