the Centre for Epidemiological Studies Depression scale as indicated by Radloff (1977, 1991). 28 participants (11 males), with a mean age of 21.61 years (SD = 3.69) formed the non-dysphoric group. An independent samples t-test established a significant difference, $t(38)= 12.09$, $p<.01$, in CES-D scores between the dysphoric ($M = 23.32$, $SD = 7.79$) and non-dysphoric ($M = 5.29$, $SD = 2.72$) groups. The two mood groups did not differ with respect to age or gender ratio. All participants were recruited voluntarily, without payment or course credit, from the undergraduate population at the University of Hull. No participants were currently receiving treatment for depression and/or anxiety. However, participants were not screened for previous mental health problems of current/past use of psychotropic drugs.

### *2.2. Materials*

#### *2.2.1. Past Events Task.*

Written instructions were provided which asked the participant to recall four past events; two that had occurred within the previous month and two over a year old. The order of the two time periods was counterbalanced across participants. Instructions stated that each event must have occurred on a single day and they were to think about it in as much detail as possible. They were then asked to write a brief description of the event. After recording each event, participants provided ratings for eight phenomenological characteristics (adapted from Berntsen & Bohn, 2010; D'Argembeau & Van der Linden, 2006) associated with the experience of remembering the event (emotional valence, emotional intensity, vividness, coherence, sensory detail, extent of bodily experience, relevance of the event for identity and importance for life story). All variables were assessed using 7-point Likert scales. In order to allow events to be separated into those rated as negative (-3, -2 and -1), neutral (0), and positive (+1, +2 and +3), emotional valence ratings were provided on a scale ranging from -3 to +3. '*The emotions I have when I recall/imagine the event are… (-3, …extremely negative; +3, …extremely positive)*'. All other phenomenological characteristics used a scale ranging from 1 to 7. For example, *'The order of events is clear and tells a coherent story' (1, Not at all; 7, Extremely)'* and *'When I think about it I can 'bodily' feel myself in the event (1, Not at all; 7, Extremely)'*.

#### *2.2.2. Future Events Task.*

Identical in structure to the Past Events Task, each participant was asked to imagine, and provide associated phenomenological characteristics ratings, for four future events.

*2.2.3. CES-D Scale.*

The CES-D is a self-report measure designed to assess depressive symptoms within nonclinical populations (Radloff, 1977). Each of 20 items is marked across a 4-point Likert scale to indicate frequency of experience within the previous week. For example, *'I was bothered by things that usually don't bother me' (0= rarely or none of the time, 3=most or all of the time)*. Scores range from 0-60 with higher scores indicating higher frequencies of symptoms. Radloff (1977, 1991) suggested that a cut-off of 16+ is indicative of depression. A number of alternative cut-off scores have been suggested and used by various researchers, however a cut-off of 16+ remains the most consistently used within the literature.

*2.3. Procedure*

Participants were tested individually with the order of the Past Events Task and the Future Events Task counterbalanced across participants. All participants completed the CES-D scale at the end of the testing protocol.

*2.4. Statistics Analyses*

Data were analysed using SPSS Statistics 19. Analyses comprised a series of mixed factorial ANOVAs. In each case, we were interested in whether the dependent variable varied as a function of temporal direction (past vs. future), temporal distance (near vs. far), and mood group (dysphoric vs. control). As a first stage, we investigated the specificity of the events generated. Given that the task instructions had been to retrieve/simulate specific events, pertaining to a single day in the past/future, any events that did not meet these requirements were then removed from further analyses.

Subsequent analyses were concerned with the valence of the events reported and the phenomenological characteristics associated with these events. With respect to the phenomenological characteristics ratings, five variables assessed the extent of (p)reliving (emotional intensity, vividness, coherence, sensory detail and bodily

experience) and two assessed the event's importance with respect to life story and identity. It is acknowledged that there are issues inherent in conducting multiple comparisons to assess the extent of (p)reliving and event importance. Thus, whilst no adjustments were made for the multiple ANOVAs assessing event (p)reliving and importance, two-tailed tests are reported throughout and significant results are interpreted cautiously.

Any significant interaction effects that emerged from the omnibus ANOVAs were investigated using bonferroni adjusted pairwise comparisons.

## 3. Results

### *3.1. Specificity of Events*

Events were categorised for specificity by two raters who were blind to the participants' dysphoric status. Events were coded into one of three categories; specific (events lasting less than one day), categoric (repeated events, e.g. repeated trips to the cinema) and extended (single events lasting longer than one day, e.g. a holiday). Minimal disagreement occurred (Cohen's Kappa = .95) and was resolved via discussion. All temporally close events were categorised as specific. A small number of distant events referred to extended events; these comprised 3% and 7% of past, and 8% and 4% of future, events for the dysphoric and non-dysphoric participants respectively. A 2*2*2 ANOVA assessed specificity as a function of temporal direction, temporal distance, and mood group. The main effect of temporal distance was significant, $F(1,57)=14.99$, $p<.01$, with distant, compared with near, events being less specific. No other effects were significant (all $p$s > .34). The extended events were removed from the dataset, leaving only specific events for further analyses.

### *3.2. Content of Events*

The same two independent raters coded the specific events into four categories with respect to event content (adapted from D'Argembeau & van der Linden, 2004); celebrations/leisure events; positive academic/work events; negative or neutral academic/work events; arguments, accidents, and deaths (Table 1). The number of events outside these categories was small (reported as 'Other' in Table 1). Agreement

between raters was high (Cohen's Kappa = .93) and any disagreements were resolved via discussion.

A 2*2*2*2 ANOVA assessed the proportion of events as a function of temporal direction, temporal distance, mood group and category valence. The proportions of events in the two positive (celebrations/leisure events and positive academic/work events) and two negative (negative or neutral academic/work events and arguments, accidents & deaths) categories were summed to create aggregate proportions for positive and negative categories respectively. The main effect of valence was significant, $F(1,57)=328.13$, $p<.001$; overall, more positive than negative events were recalled/simulated. The analysis also revealed a significant main effect of mood group, $F(1,57)=4.50$, $p<.05$, and trends towards significance for the main effects of temporal direction, $F(1,57)=3.74$, $p=.06$, and temporal distance, $F(1,57)=3.74$, $p=.06$. This suggests that dysphoric participants generated a greater proportion of events that fitted into one of the four coding categories, rather than the 'Other' category. Furthermore, events were more likely to fall into one of these four categories when they were temporally near, compared with far, and in the future, compared with the past.

A number of two-way interactions were also significant or approaching significance. Both the temporal direction x valence, $F(1,57)=35.80$, $p<.001$, and temporal distance x valence, $F(1,57)=13.02$, $p<.01$, were significant. Bonferroni adjusted pairwise comparisons revealed that higher proportions of positive events were found for future, compared with past, events ($p<.01$) and far, compared with near, events ($p<.01$); conversely, higher proportions of negative events were found for past, compared with future, events ($p<.01$) and near, compared with far, events ($p<.05$). The mood group x valence interaction approached significance, $F(1,57)=3.40$, $p=.07$, with bonferroni adjusted pairwise comparisons demonstrating that the control and dysphoric participants did not differ with respect to the proportion of reported events categorised as positive ($p=.27$). The dysphoric participants did, however, evidence a higher proportion of events categorised as negative ($p<.05$). All other two-way, three-way and four-way interactions were not significant (all $p$s$>.10$).

*3.3. Subjective Valence of Events*

The present study used a minimal cueing strategy that did not specify event valence. Thus, the proportion of events rated as positive (+1, +2, +3), negative (-1, -2, or -3) or neutral (0) could differ, particularly as a function of mood group. The proportion of events in each of these categories was calculated as a function of temporal direction, temporal distance, and mood group. (Table 1). Three separate 2*2*2 ANOVAs assessed the proportion of positive, negative and neutral events independently.

For positive events, a main effect of temporal distance emerged, $F(1,57)=4.41$, $p<.05$, with the proportion of positive events being higher in the distant, compared with the near, condition. A main effect of mood group also emerged, $F(1,57)=16.57$, $p<.001$, with a higher proportion of positive events being reported by the non-dysphoric, compared with the dysphoric, participants. For neutral and negative events respectively, a significant main effect, $F(1,57)=11.18$, $p<.01$, and a trend towards significance, $F(1,57)=3.08$, $p=.09$, emerged with respect to mood group. A higher proportion of negative and neutral events were provided by dysphoric, compared with non-dysphoric, participants. All other main and interaction effects were not significant (all $p$s $>.13$).

*3.4. Phenomenological Characteristics Ratings – All Events*

A series of 2*2*2 mixed ANOVAS assessed the effect of temporal direction (past vs. future), temporal distance (near vs. far) and mood group (non-dysphoric vs. dysphoric) on the subjective experience ratings provided by participants. Six of the ratings provided related to the *extent and nature of (p)reliving*. Ratings of emotional valence were analysed in section 3.3, with the remaining five (vividness, sensory detail, coherence, and bodily experience) analysed here. Significant main effects of temporal direction emerged for all variables, whereby future, compared with past, events were rated as being less vivid, $F(1,57)=66.58$, $p<.001$; coherent, $F(1,57)=64.48$, $p<.001$, sensorially detailed, $F(1,57)=27.01$, $p<.001$, bodily experienced, $F(1,57)=21.43$; $p<.001$,and emotionally intense, $F(1,57)=9.89$, $p<.01$. Significant main effects of temporal distance also emerged across for all variables except emotional intensity, $F(1,57)=2.76$, $p=.10$, and bodily experience, $F(1,57)=2.37$, $p=.13$. Temporally distant, compared with temporally near, events were rated as being

less vivid, F(1,57)=29.80, *p*<.001, coherent, F(1,57)=24.84, *p*<.001 and sensorially detailed, F(1,57)=13.67, *p*<.001.

No significant main effects of mood group emerged for ratings of coherence, sensory detail, bodily experience or emotional intensity (all *p*s>.28). A significant effect of mood group was evident for vividness of events, F(1,57)=5.79, *p*<.05, whereby dysphoric individuals, compared with non-dysphoric controls, reported lower vividness ratings. These limited main effects of mood group were, however, qualified by significant temporal direction x mood group interactions for all variables: vividness, F(1,57)=13.72, *p*<.001; coherence, F(1,57)=15.29, *p*<.001; sensory detail, F(1,57)=16.03, *p*<.001; bodily experience, F(1,57)=14.09, *p*<.001; and emotional intensity, F(1,57)=32.44, *p*<.001. Bonferroni adjusted pairwise comparisons revealed that, with respect to ratings of coherence, bodily experience and emotional intensity, dysphoric, compared with non-dysphoric, participants provided higher ratings for past events and lower ratings for future events (*p*s<.05). Ratings of vividness and sensory detail did not differ between dysphoric and non-dysphoric participants with respect to past events (*p*s>.05). However, dysphoric participants provided significantly lower ratings for these variables in relation to future events (*p*s<.05). No other two-way or three-way interaction effects were significant (all *p*s>.12).

The final two ratings reflected the *importance of the events in terms of self-concept*. A significant main effect of temporal direction emerged for both importance with respect to life story, F(1,57)=4.89, *p*<.05, and identity, F(1,57)=4.37, *p*<.05. In both instances, future events were rated as being more important. Significant main effect of temporal distance also emerged for both importance to identity, F (1,57)=57.18, p<.001, and life story, F(1,57)=123.25, *p*<.001. Temporally distant, compared with near, events were rated as more important with respect to identity and life story. There were a significant main effects of mood group for importance for identity, F(1,57)=5.03, p<.05, but not life story, F(1,57)=2.59, p=.11. Dysphoric, compared with non-dysphoric, participants rated events as less important with respect to their identity. Significant temporal direction x mood group interaction effects for emerged both variables: life story, F (1,57) = 14.40, *p*<.001; identity, F (1,57) = 14.54, *p*<.001. Bonferroni adjusted pairwise comparisons revealed that whilst dysphoric and non-dysphoric participants did not differ on their importance ratings with respect to past events (*p*s>.05), the dysphoric participants rated future events as

significantly less important with respect to both identity and life story (*p*s<.05). No other two-way or three-way interaction effects were significant (all *p*s>.12).

*3.5. Phenomenological Characteristics Ratings – Positive Events Only*

Previous research has evidenced that emotional valence affects other subjective qualities of memories, with negative memories being less vivid and sensorially detailed (e.g. D'Argembeau, Comblain, & Van der Linden, 2003). Within the present dataset the dysphoric and non-dysphoric participants differed with respect to the proportion of events that were subjectively rated as being positive in valence. Therefore, it is feasible that variations in the subjective characteristics ratings between the mood groups may be a function of differences in event valence. Due to the use of non-emotional cues for retrieval/simulation, not all participants produced sufficient positive, negative and neutral events within each of the temporal distance and direction conditions for the emotional valence of events to be entered as a factor within the analyses. However, 24 of the non-dysphoric and 25 of the dysphoric participants produced sufficient numbers of positive events (rated as +1, +2 or +3 for emotional valence) to allow the subjective experience of these events to be examined as a function of temporal direction and mood group. Examining whether dysphoric and non-dysphoric individuals differ with respect to their subjective experience of positive events, both in the past and the future, is particularly pertinent given that previous research suggests that positive future cognitions may be particularly problematic for dysphoric and depressed individuals (e.g. Holmes et al., 2008). Data was collapsed across the two temporal distance conditions (near and far) as the initial analyses of phenomenological characteristics revealed no significant temporal distance x mood group interactions.

An initial 2x2 mixed ANOVA examined the effects of temporal direction and mood group on ratings of emotional valence. A significant main effect of mood group was found, $F(1,47)=4.08$, $p<.05$. Despite all events being rated as positive, non-dysphoric participants rated these events as significantly more positive than their dysphoric counterparts. No significant effect of temporal direction, $F(1,47)=1.44$, $p=.24$, or interaction, $F(1,47)=1.00$, $p=.32$, emerged.

With respect to the ratings relating to the *extent and nature of (p)reliving* a similar, albeit not identical, pattern of findings emerged to those found within the

analyses of all events. Significant main effects of temporal direction were evidenced for all variables, whereby future, compared with past, events were rated as being less vivid, $F(1,47)=60.21$, $p<.001$; coherent, $F(1,47)=47.46$, $p<.001$, sensorially detailed, $F(1,47)=42.64$, $p<.001$, bodily experienced, $F(1,47)=25.38$; $p<.001$,and emotionally intense, $F(1,47)=23.50$, $p<.001$. No significant main effects of mood group emerged for ratings of coherence, bodily experience or emotional intensity (all *p*s>.2). A significant effect of mood group was evident for ratings of vividness, $F(1,47)=4.17$, $p<.05$, and sensory detail, $F(1,47)=5.57$, $p<.05$. Dysphoric individuals, compared with non-dysphoric controls, rated events as being less vivid and rich in sensory detail. These limited main effects of mood group were, however, qualified by significant temporal direction x mood group interactions for all variables: vividness, $F(1,47)=15.64$, $p<.001$; coherence, $F(1,47)=18.42$, $p<.001$; sensory detail, $F(1,57)=12.98$, $p<.01$; bodily experience, $F(1,47)=14.94$, $p<.001$; and emotional intensity, $F(1,47)=23.92$, $p<.001$. Bonferroni adjusted pairwise comparisons revealed that, with respect to ratings of vividness, coherence and sensory detail, dysphoric and non-dysphoric participants did not differ with respect to their ratings in relation to past events (*p*s>.05). However, dysphoric participants rated future events significantly lower on all three of these variables (*p*s<.05). Ratings of bodily experience and emotional intensity were rated by dysphoric, compared with non-dysphoric, participants as being significantly higher for past positive events and lower for future positive events (*p*s<.05).

Participants' assessments of *importance of the events in terms of self-concept*, both in term of identity and life story, revealed no significant main effects of temporal direction or mood group. The lack of significant main effects was, however, qualified by significant interaction effects for both variables: identity, $F(1,47)=11.82$, $p<.005$; life story, $F(1,47)=9.47$, $p<.01$. In a similar pattern to that evidenced for in the analyses of all events, bonferroni adjusted pairwise comparisons revealed that dysphoric and non-dysphoric participants did not differ on their importance ratings with respect to past events, yet the dysphoric participants rated future events as significantly less important with respect to both identity and life story.

## 4. Discussion

The current research compared the content and subjective experience of past and future episodes in individuals with dysphoria and non-dysphoric controls. It was hypothesised that the dysphoric group would generate fewer positive, and more negative, events compared with controls. Independent coding of event content did not fully support this hypothesis given that differences only emerged with respect to the proportion of negative, but not positive, events. However, subjective ratings of emotional valence were fitting with this hypothesis. Taken together these findings are, to some extent, in line with previous work evidencing a negativity bias within autobiographical thinking in depression (e.g. Lloyd & Lishman, 1975; MacLeod et al., 1997). Interestingly, our findings suggest that this negativity bias may not necessarily be due to dysphoric individuals generating fewer events that are, by independent definition, positive. Instead, the smaller proportion of events subjectively rated as positive suggests that it is the interpretation and experience of emotions accompanying recall/simulation that differs in dysphoria. For instance, a dysphoric participant could describe a party to celebrate the end of exams, which would be independently coded as positive, yet symptoms of depression such as low self-worth may mean that they felt socially uncomfortable and, thus, did not rate the event as a positive experience.

We hypothesised, in line with previous literature evidencing a positivity bias with respect to future thinking (e.g. Berntsen & Bohn, 2010; D'Argembeau & van der Linden, 2004), that future events would be rated as more positive than past events. Independent coding, but not subjective ratings, of events supported this hypothesis. We were particularly interested to establish whether dysphoric individuals would evidence a similar positivity bias for the future. Previous literature made it difficult to create a clear prediction; some researchers have shown that depressed individuals have particular difficulty with generating positive future cognitions (e.g. Holmes et al., 2008) yet other work (e.g. Dalgleish et al., 2011) has found that depressed individuals structure the past, but not the future, in a depressogenic manner. No significant interaction effects emerged that suggest a different pattern of findings within the dysphoric, compared with the control, group. Whilst the dysphoric participants reported more negative events across both temporal directions, both control and dysphoric participants reported more, independently coded, positive events in the future compared with the past.

Five of the remaining phenomenological characteristics ratings assessed *the nature and extent of (p)reliving* that accompanied event recall/simulation. It was hypothesised that past, compared with future and temporally near, compared with far, events would be rated as having higher levels of (p)reliving. Furthermore, it was predicted that dysphoric, compared with control, participants would report lower levels of (p)reliving. The first of these hypotheses was supported across all variables. However, the prediction regarding differences between the dysphoric and control participants was, in the main, unsupported. The only variable for which dysphoric participants reported significantly lower ratings was vividness. These findings were, however, qualified by a significant interaction effects, between temporal direction and mood group, for all variables. Dysphoric, compared with control, participants rated past events as more coherent, bodily experienced and emotionally intense; they also rated them as equally vivid and sensorially detailed as their non-dysphoric counterparts. Conversely, they rated future events as less vivid, coherent, sensorially detailed, bodily experienced, and emotionally intense than the non-dysphoric controls. Thus, when explicitly emotional cues are not used to elicit memories and simulations we were unable to find any evidence of a reduced autonoetic experience with respect to memory in dysphoria; however, we found strong evidence that such a bias is evident in future thinking.

Previous literature suggests that emotional valence affects other subjective qualities of events (D'Argembeau et al., 2003). Given that the proportions of positive, negative and neutral events differed between our dysphoric and control groups, it seems wise to consider whether this may have accounted for the observed findings. One possible explanation can be drawn from the fact that depression has been particularly associated with problems with positive future cognitions (e.g. Holmes et al., 2008; MacLeod et al., 1997). The majority of events, both past and future, were objectively coded as representing positive experiences. Therefore, it is fitting that we evidenced muted preliving, but not reliving, within our dataset. In order to test this proposition further we examined whether the same pattern of findings was evidence when only events subjectively rated as positive by participants were analysed. The results were largely comparable. Reliving of memories was rated equal, or higher, by the dysphoric, compared with the non-dysphoric, group; conversely, ratings for preliving were consistently lower. These findings, therefore,

lend further support to the notion that dysphoric individuals have a particular difficulty with envisaging positive events in the future.

The key question raised by the current, and previous, findings is why dysphoric individuals struggle to envision future, but not past, events? Depression is associated with intrusive memories and prospections (e.g. Brewin, Reynolds, & Tata, 1999; Morina et al., 2011). Thus, attempts by the dysphoric participants to avoid such intrusive thoughts leads to competition for limited cognitive resources and results in reduced levels of autonoetic consciousness (Lemogne, Bergouignan, Piolino, et al., 2009). However, given that depression is associated with *both* intrusive past and future thinking this explanation does not fully account for why the reduction in autonoetic consciousness is only evident for future, but not past, events. One clue may be provided by the ratings for importance with respect to identity and life story. The non-dysphoric participants demonstrated the same pattern evidenced in previous literature, whereby past, compared with future, events involve higher levels of autonoetic consciousness and lower levels of importance with respect to identity/life story (Berntsen & Bohn, 2010). Dysphoric participants did not show this pattern; they rated future events as significantly less vivid *and* less important than past events. Given that our findings, and those of Watson et al (2012), suggest that depressed individuals rate past events as being more important than future events, it logically follows that they may assign more cognitive resources to thinking about the past. In doing so, they have fewer cognitive resources available for future thinking and, therefore, any simulations they generate contain lower levels of autonoetic consciousness. The inclusion of measures of intrusive memories and prospections in future research would help elucidate on this proposition.

What are the implications of these findings? The current data, in line with previous research, suggests that individuals with dysphoria have difficulties in envisioning positive events in the future. Furthermore, they struggle to create vivid and coherent simulations of future events. Most interestingly, coupled with this reduced sense of autonoetic consciousness, they view these future events as lacking in importance with respect to their self-narrative. This could have implications for their ability to effectively problem solve and plan for the future, as previous research suggests that future simulation can promote positive mood, improve motivation and increase the likelihood of behavioural enactment ( e.g. Pham & Taylor, 1999; Pictet,

Coughtrey, Mathews, & Holmes, 2011). Rasmussen and Berntsen (2013) argue that, whilst the past provides important information in terms of learning from mistakes, the future is more important with respect to self regulation. Future episodic thinking is characterized by uncorrected positive illusions, which motivate us 'to explore the environment and to set and approach new goals with the expectation that we will succeed' (p.198). If individuals with dysphoria are focused on a negatively-biased past, they may become overly concerned with the avoidance of repeating past mistakes yet ignore the importance of generating new goals for the future. Furthermore, if the dysphoric individual's self-concept is primarily driven by negatively interpreted past events then they may struggle to see how things may alter and, as a result, become less motivated to initiate change. In essence, the past can only be reinterpreted, not altered, whereas viewing the future as more important for one's self-concept has the benefit of allowing for a fluid and changeable self, with the possibility of an emergent ideal self in the future.

Given the previous literature evidencing overgeneral thinking biases in depression (e.g. Dickson & Bates, 2006; Williams & Scott, 1988; Williams et al., 1996) it was, perhaps, surprising that the dysphoric participants in the current study did not demonstrate such a bias. However, Raes, Hermans, Williams and Eelen (2007) highlight that the emergence of overgeneral thinking within non-clinical groups appears to less consistent and may be dependent upon the cueing methodology employed. They argue that when instructions explicitly state that the events recalled/simulated must pertain to a single day, as was the case in the present study, then overgeneral responses are very low. Within the current findings it is also interesting to note that when non-specific responses were provided they referred to extended, rather than categoric, events. This may, again, be a function of the different cueing methodology employed in the current research. The majority of the previous literature has relied on emotional cues, which we argue may be more likely to evoke avoidant and/or ruminative thinking that, as outlined by the Car-FA-X model (Williams, 2006; Williams et al., 2007), results in a truncated search at the level of the categoric descriptor.

The current findings provide an insight into the differing content and subjective experience of past and future events in dysphoria. Whilst these biases have a number of potential implications for adaptive functioning and maintenance of depression, we acknowledge a number of limitations and raise questions for future

research. Our study explored the subjective experience of past and future episodes in dysphoria. However, it would be of interest to establish whether the same pattern of findings extends to individuals with a clinical diagnosis of depression. It would also be of interest to include measures of personality assessment in future work. This would help to disentangle the effects of transient dysphoric mood and enduring negative affectivity, such as neuroticism and harm avoidance (Lemogne, Bergouignan, Boni, et al., 2009). Furthermore, at this stage we do not know whether these biases represent a thinking style that emerges as a result of depressive symptomatology or whether it constitutes a more stable cognitive style that predisposes an individual to developing depression.

Our study aimed to move away from the methodology employed in previous work that has been heavily reliant on the use of emotionally valenced cues for retrieval/simulation in dysphoric individuals. As a result of this we placed minimal constraints on the events reported by participants. A number of studies have, however, suggested that the recall and simulation of events differs dependent upon the valence of the event (e.g. D'Argembeau et al., 2003). Therefore, it would be pertinent to incorporate event valence into future work. In order to maintain a minimal cueing technique it would be necessary to increase the number of events recalled/simulated; this would increase the likelihood of sufficient positive and negative events, allowing valence to be entered as an independent factor within the analyses. Answering the questions raised here would elucidate further on the biases in content and subjective experience of recalled and simulated life events, and their role in maintaining the negative thinking that is central to depressive symptomatology.

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**Table 1**

Table 1: Content (independently rated) and valence (subjectively rated) of events as a function of temporal distance, temporal duration and mood group. Figures represent proportion of events with standard deviations in parentheses. (Dysphoric, *n*=31; Non-dyphoric, *n*=28)

| | | Past | | Future | |
|---|---|---|---|---|---|
| | | Near | Distant | Near | Distant |
| Event Content | | | | | |
| Celebrations & Leisure Activities | Non-Dysph. | .52 (.32) | .62 (.29) | .48 (.35) | .64 (.33) |
| | Dysphoric | .50 (.34) | .60 (.37) | .60 (.33) | .61 (.36) |
| Academic & Work (Positive) | Non-Dysph. | .11 (.21) | .18 (.24) | .34 (.33) | .34 (.33) |
| | Dysphoric | .08 (.19) | .08 (.19) | .26 (.34) | .34 (.35) |
| Academic & Work (Neutral or Negative) | Non-Dysph. | .11 (.21) | .02 (.09) | .09 (.20) | .00 (.00) |
| | Dysphoric | .19 (.24) | .11 (.21) | .09 (.20) | .03 (.12) |
| Arguments, Accidents & Deaths | Non-Dysph. | .12 (.26) | .11 (.21) | .02 (.09) | .02 (.09) |
| | Dysphoric | .20 (.31) | .11 (.21) | .02 (.09) | .00 (.00) |
| Other | Non-Dysph. | .14 (.27) | .07 (.22) | .07 (.18) | .00 (.00) |
| | Dysphoric | .03 (.12) | .03 (.12) | .03 (.12) | .02 (.09) |
| Event Valence | | | | | |
| Positive | Non-Dysph. | .63 (.40) | .68 (.37) | .63 (.42) | .77 (.38) |
| | Dysph. | .37 (.34) | .51 (.40) | .44 (.38) | .41 (.45) |
| Negative | Non-Dysph. | .29 (.40) | .25 (.37) | .30 (.42) | 16 (.33) |
| | Dysph. | .40 (.35) | .39 (.38) | .32 (.30) | .29 (.36) |
| Neutral | Non-Dysph. | .08 (.24) | .07 (.18) | .07 (.18) | .07 (.22) |
| | Dysph. | .23 (.31) | .10 (.24) | .24 (.34) | .30 (.38) |

**Table 2**

Table 2: Mean subjective experience ratings across temporal direction, temporal distance and mood group, with standard deviations in parentheses (Dysphoric, *n*=31; Non-dysphoric, *n*=28)

| | | Past | | Future | | *ANOVA* | |
|---|---|---|---|---|---|---|---|
| | | Near | Distant | Near | Distant | *Main Effects* | *Interactions* |
| Vividness | Non-Dysph. | 5.88 (0.88) | 4.98 (1.46) | 4.66 (1.32) | 4.46 (1.55) | Past>Future<br>Near>Distant<br>Non-Dys.>Dys. | Temp Dir x Mood Group<br>*(Dys.=Non-Dys. in past & Dys.<Non-Dys. in future)* |
| | Dysphoric | 6.19 (0.89) | 5.10 (1.28) | 3.79 (1.41) | 2.89 (1.49) | | |
| Coherence | Non-Dysph. | 5.94 (1.07) | 4.88 (1.49) | 4.73 (1.30) | 4.27 (1.72) | Past>Future<br>Near>Distant | Temp Dir x Mood Group<br>*(Dys.>Non-Dys. in past & Dys.<Non-Dys. in future)* |
| | Dysphoric | 6.39 (1.05) | 5.48 (1.57) | 3.82 (1.54) | 3.10 (1.46) | | |
| Sensory Detail | Non-Dysph. | 4.59 (1.58) | 4.00 (1.71) | 4.38 (1.36) | 3.68 (1.65) | Past>Future<br>Near>Distant | Temp Dir x Mood Group<br>*(Dys.=Non-Dys. in past & Dys.<Non-Dys. in future)* |
| | Dysphoric | 5.15 (1.12) | 4.73 (1.82) | 3.13 (1.59) | 2.61 (1.47) | | |
| Bodily Experience | Non-Dysph. | 4.80 (1.65) | 4.21 (1.66) | 4.38 (1.73) | 4.04 (1.85) | Past>Future | Temp Dir x Mood Group<br>*(Dys.>Non-Dys. in past & Dys.<Non-Dys. in future)* |
| | Dysphoric | 6.00 (1.32) | 5.42 (1.57) | 3.61 (1.65) | 3.20 (1.65) | | |
| Emotional Intensity | Non-Dysph. | 4.89 (1.84) | 3.89 (1.77) | 4.64 (1.76) | 4.55 (1.70) | Past>Future | Temp Dir x Mood Group<br>*(Dys.>Non-Dys. in past & Dys.<Non-Dys. in future)* |
| | Dysphoric | 5.63 (1.26) | 5.45 (1.32) | 3.69 (1.69) | 3.18 (1.71) | | |
| Identity | Non-Dysph. | 2.80 (1.30) | 4.21 (1.88) | 4.54 (1.42) | 5.23 (1.36) | Future>Past<br>Distant>Near<br>Non-Dys.>Dys. | Temp Dir x Mood Group<br>*(Dys.=Non-Dys. in past & Dys.<Non-Dys. in future)* |
| | Dysphoric | 2.68 (1.05) | 4.53 (1.75) | 2.81 (1.71) | 3.74 (2.03) | | |
| Life Story | Non-Dysph. | 2.16 (1.62) | 3.77 (1.85) | 3.48 (1.65) | 5.54 (1.17) | Future>Past<br>Distant>Past | Temp Dir x Mood Group<br>*(Dys.=Non-Dys. in past & Dys.<Non-Dys. in future)* |
| | Dysphoric | 2.45 (1.45) | 4.55 (1.71) | 2.56 (1.57) | 4.02 (1.91) | | |

**Table 3**

Table 3: Mean subjective experience ratings for positive events across temporal direction, temporal distance and mood group, with standard deviations in parentheses (Dysphoric, *n*=25; Non-dysphoric, *n*=24)

| | | | | *ANOVA* | |
|---|---|---|---|---|---|
| | | Past | Future | *Main Effects* | *Interactions* |
| Vividness | Non-Dysph. | 5.38 (1.12) | 4.53 (1.22) | Past>Future<br>Non-Dys.>Dys. | Temp Dir x Mood Group<br>*(Dys.=Non-Dys. in past &*<br>*Dys.<Non-Dys. in future)* |
| | Dysphoric | 5.69 (1.40) | 3.10 (1.16) | | |
| Coherence | Non-Dysph. | 5.18 (1.33) | 4.50 (1.31) | Past>Future | Temp Dir x Mood Group<br>*(Dys.=Non-Dys. in past &*<br>*Dys.<Non-Dys. in future)* |
| | Dysphoric | 5.93 (1.48) | 3.03 (1.18) | | |
| Sensory Detail | Non-Dysph. | 4.67 (1.46) | 3.99 (1.34) | Past>Future<br>Non-Dys.>Dys. | Temp Dir x Mood Group<br>*(Dys.=Non-Dys. in past &*<br>*Dys.<Non-Dys. in future)* |
| | Dysphoric | 4.81 (1.35) | 2.47 (1.02) | | |
| Bodily Experience | Non-Dysph. | 4.56 (1.45) | 4.23 (1.63) | Past>Future | Temp Dir x Mood Group<br>*(Dys.>Non-Dys. in past &*<br>*Dys.<Non-Dys. in future)* |
| | Dysphoric | 5.44 (1.46) | 2.96 (1.38) | | |
| Emotional Intensity | Non-Dysph. | 4.48 (1.32) | 4.49 (1.61) | Past>Future | Temp Dir x Mood Group<br>*(Dys.>Non-Dys. in past &*<br>*Dys.<Non-Dys. in future)* |
| | Dysphoric | 5.39 (1.21) | 3.04 (1.44) | | |
| Identity | Non-Dysph. | 3.20 (1.41) | 4.56 (1.30) | | Temp Dir x Mood Group<br>*(Dys.=Non-Dys. in past &*<br>*Dys.<Non-Dys. in future)* |
| | Dysphoric | 3.55 (1.76) | 3.12 (1.65) | | |
| Life Story | Non-Dysph. | 3.16 (1.54) | 4.51 (1.35) | | Temp Dir x Mood Group<br>*(Dys.=Non-Dys. in past &*<br>*Dys.<Non-Dys. in future)* |
| | Dysphoric | 3.63 (1.83) | 3.12 (1.73) | | |