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**Running Head: Experiential avoidance and cognitive fusion in coping with ostracism**

**Psychological flexibility and ostracism: Experiential avoidance rather than cognitive fusion moderates distress from perceived ostracism over time.**

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**Abstract**

Psychological *in*flexibility has been found to moderate psychological distress following perceived ostracism. Two component processes of psychological inflexibility, experiential avoidance and cognitive fusion, are considered key in exacerbating general emotional distress. The present study ($n = 286$) examined whether both experiential avoidance and cognitive fusion moderate distress from perceived ostracism or whether one of these processes alone underpins the moderation effect of psychological inflexibility. In a structural equation model analysis, when accounting for both factors, experiential avoidance moderated distress from perceived ostracism alone. Thus, it seems that experiential avoidance is a key driver underlying emotional regulation of psychological distress in the context of perceived ostracism.


Keywords: Ostracism, psychological flexibility, experiential avoidance, cognitive fusion, cognitive defusion, distress.

Ostracism, primarily characterized by being ignored in social contexts such as within the family or workplace environments (Riva & Eck, 2016), is known to cause psychological distress including painful negative emotions and hurt feelings along with increased anger, frustration, aggression, sadness, and loneliness (e.g., Hawkley, Williams, & Cacioppo, 2011; Williams, 2007, 2009). The distress that follows an experience of ostracism can be so pervasive that it occurs even when a person is ignored by an unwanted or undesirable group (Gorsalkorale & Williams, 2007). Many promising factors may help buffer an individual against the negative effects of emotional distress following ostracism, at least in the short term. For example, self-esteem (Teng & Chen, 2012), attachment styles (Hermann, Skulborstad, & Wirth, 2014), social anxiety (Zadro, Boland, & Richardson, 2006), use of prayer (Hales, Wesselmann, & Williams, 2016), perceived social hierarchy (Schoel, Eck, & Greifender, 2014), and temporal perspective (Garcynski & Brown, 2014), may influence an individual's capacity to cope with their short-term ostracism. While it is apparent that many of these studies examined seemingly theoretically disparate and unrelated constructs, Riva, Wesselmann, Wirth, Carter-Sowell, and Williams (2014) reviewed the literature linking an impaired self-regulation with distress in the context of ostracism or chronic social pain. In general, Baumeister et al. (1994) reported that people typically recover quite quickly (i.e., in terms of ego depletion) from a distressing socially painful event such as ostracism. However, Riva et al. (2014) speculated that chronic social pain may be an exception, representing a long-term lax that constantly undermines a person's capacity to self-regulate as the distress of social pain interferes with domains of executive functioning. Thus, Riva et al. theorized that impaired emotional self-regulation is likely the critical mechanism that determines whether a person will suffer prolonged distress from everyday experiences of ostracism. Although there may be little agreement as to how impaired self-regulatory function develops (Gross & Feldman Barrett, 2011; Riva et al., 2014; Vohs, Baumesister, & Ciarocco, 2005), one

relatively recent construct, *psychological flexibility* (Hayes, Strosahl, & Wilson, 1999; 2012) might be a key factor in influencing emotional self-regulation following ostracism, and is the focus of the current study.

According to Williams' (2009) Temporal Need Threat Model (TNTM), there are three stages of response to an ostracism event: (i) reflexive, (ii) reflective, and (iii) resignation. The TNTM proposes that in the *reflexive* stage, the experiences of ostracism immediately deplete four fundamental psychological needs: self-esteem, self-control, need for belonging, and meaningful existence (Williams, 2009; see also Stillman et al., 2009; Williams, Cheung, & Choi, 2000; Zadro, Williams, & Richardson, 2004). After the initial sting of ostracism, individuals enter the *reflective* stage in which they focus their efforts on recovering their thwarted need satisfaction. Much research suggests that this is typically the stage in which individuals' reactions are moderated by either individual differences or situational factors (e.g., Knowles & Gardner, 2008; Kuehn, Chen, & Gordon, 2015; Onoda et al., 2010; Rudert & Greifender, 2016; Zadro et al., 2006).

Despite the utility of the TNTM, it is somewhat lacking in guidance as to how to incorporate and reconcile the effects of such different moderating constructs on coping with ostracism. The psychological flexibility model (Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Hayes et al., 1999, 2012) might help provide some much needed theoretical unity or grounding to the widely diverse literature on potential constructs to help cope with distress following ostracism. The final stage of the TNTM, the *resignation* stage, is characterized by chronic ostracism and feelings of alienation, worthlessness, and hopelessness (see Riva, Montali, Wirth, Curioni, & Williams, 2016). However, little research has examined the dispositional factors that can lead people to enter the resignation stage following everyday experiences of ostracism. To fill this gap, the current study focused on coping with distress following general everyday experiences of self-reported perceived ostracism.

**Psychological Flexibility**

Psychological flexibility is the central tenet of the Acceptance and Commitment Therapy (ACT) model of behavior change. Within ACT, there are six core overlapping and inter-related processes that are purported to contribute to this broad higher level construct of psychological flexibility: *contacting the present moment*, *acceptance*, *cognitive defusion*, *self-as-context*, *values,* and *committed action* (Hayes et al., 2006). Psychologically flexibility is characterized as a person's capacity to remain in contact with psychological pain (e.g., emotional distress following an experience of ostracism) and allow it to pass by without defence or emotional struggle, while persisting with or changing behavior in line with one's own chosen values (Hayes et al., 2012). In other words, psychological flexibility is "the ability to contact the present moment more fully as a conscious human being, and to change or persist in behaviour when doing so serves valued ends" (Hayes et al., 2006, p. 7). Emotional struggle, in the context of ostracism, typically manifests in maladaptive internalizing (e.g., solitude seeking or social withdrawal following ostracism, Ren, Wesselmann, & Williams, 2016; excessive rumination, Wesselmann, Ren, Swim, & Williams, 2013) or externalizing (e.g., increased aggression, Gaertner, Iuzzini, & O'Mara, 2008; reduced prosocial behaviour, Twenge, Baumeister, De Wall, Ciarocco, & Bartels, 2007) behavioral responses. Research has demonstrated that increasing an individual's psychological flexibility can reduce psychological distress (e.g., Powers, Zum Vörde Sive Vörding, & Emmelkamp, 2009), and is considered a cardinal aspect of overall good psychological health and functioning (Gloster, Klotshe, Chaker, Hummel, & Hoyer, 2011; Kashdan & Rottenberg, 2010).

Psychological *in*flexibility is characterized by *experiential avoidance, cognitive fusion, self-as-content, lack of contact with the present moment, lack of values,* and *lack of commitment to action*. While all six components of psychological inflexibility model are

considered to be pertinent and inter-connected, two processes are deemed particularly important in the context of emotion regulation and coping with negative thoughts, feelings, and emotions: (i) experiential avoidance, and (ii) cognitive fusion (Hayes et al., 2012). Indeed, Hayes et al. (2012) suggested that these constructs could be usefully conceptualised as a 'pair', on a spectrum from a stance of openness to or acceptance of, or being closed or resistant to, negative thoughts and feelings (see Frances, Dawson, & Golijani-Moghaddam, 2016, for a detailed discussion). The theoretical underpinning of ACT suggests that the combination of experiential avoidance and cognitive fusion exacerbates psychological distress (see Bardeen & Fergus, 2016). Research to date has typically focused primarily on one or other one of these components with regard to a specific psychological disorder. For example, Gouveia-Pinto, Dinis, Gregorio, and Pinto (2018) examined cognitive fusion with respect to depression, while Kashdan et al. (2013) explored the role of experiential avoidance in social anxiety disorder. With respect to ostracism research, however, it remains unknown whether these two dimensions weight equally or, by contrast, one of the two plays a primary and dominant role in accounting for the association between everyday experiences of ostracism and psychological distress.

### Experiential Avoidance

We will firstly discuss the concept of experiential avoidance, which is behavior that attempts to "alter the frequency or form of unwanted private events, including thoughts, memories, and bodily sensations, even when doing so causes personal harm" (Hayes, Pistorello, & Levin, 2012, p. 981). As a construct it is somewhat related to the well-known surprising and contradictory effects of thought suppression and thought control (Wegner, 1994; Wenzlaff & Wegner, 2000), in that efforts to suppress or control unwanted thoughts ironically tend to result in increased frequency and affect intensity of such thoughts. As noted by Vaughan-Johnson, Quickert, and MacDonald (2017), however, the "conceptual

uniqueness of [experiential avoidance] is its consideration of how people feel about their feelings (similar to 'thoughts about thoughts' in the literature on metacognition)" (p. 335). The use of experiential avoidance has been implicated in the development and perpetuation of psychopathology (Chawla & Ostafin, 2007; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Indeed, the key role that experiential avoidance plays in psychological health has been explored in numerous studies, both from moderator (e.g., Bardeen, Fergus, & Orcutt, 2013; Bardeen, Fergus, & Orcutt, 2014; Gerhart, Baker, Hoerger, & Ronan, 2014; Kashdan, Breen, Afram, & Terhar, 2010; Kashdan & Kane, 2011) and mediator (e.g., Fledderus, Bohlmeijer, & Pieterse, 2010) perspectives. Moreover, Karekla and Panayiotou (2011) found that experiential avoidance adds more explanatory value than traditional concepts of coping with distress. More specifically, Karekla and Panayiotou compared the brief COPE (Carver, 1997) meaure with the Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011) as a measure of experiential avoidance and found that experiential avoidance (EA) accounted for unique variance in that "higher EA was associated with utilizing self-destruction, denial, emotional support, behavioural disengagement, venting, and self-blame to a greater degree" (p. 168). In a somewhat similar vein, Gloster et al. (2011) found that psychological flexibility, of which experiential avoidance is a core component process, "adds to the explanation of functioning and impairment, beyond well validated measures of depression, anxiety, and stress, as well as anxiety sensitivity and neroticism" (p. 976), in clinical (i.e., social phobia; panic disorder with agoraphobia)  and non-clinical samples (see also Kashdan, Barrios, Forsyth, & Steger, 2006).

It should be acknowledged at this point, however, that some researchers have argued that employing avoidance as a strategy to reduce distress is not necessarily a maladaptive response (e.g., Bonnano & Burton, 2013), at least in the short term. Indeed, attempts to resolve perceived ostracism (e.g., compliance) are purpoted to be critical to survival,

particularly within humans ancestral past (Williams, 2009). Compliance could conceivably be considered a form of experiential avoidance in this context as it may lead a person complying to a social group's set of values that are quite different to their own. As the ACT model emphasises behavior that is values-led and workable, behaving in a values-inconsistent way (which may have been the cause for the ostracism experience in the first place) might potentially lead to some psychological discomfort further down the line once the initial relief brought about by group re-admittance subsides.

### Cognitive Fusion

Cognitive fusion is conceptualised as a uni-dimensional construct on a continuum from cognitive fusion to cognitive defusion (Gillanders et al., 2014). Individuals who are high in cognitive fusion (or simply, *fused*) tend to believe that their thoughts are literally true. For example, an individual may become fused with (i.e., believe) a thought such as ("I am ignored because I am ugly"), which is purported to be psychologically painful (Riva et al., 2011; Williams, 2007). Aside from the psychological pain that believing (i.e., being fused with) such thoughts may cause individuals, fusion may also lead to acting in accordance with such thoughts. For example, imagine an individual feels ostracized and thus believes they are unlovable. This individual may choose not to attend social gatherings because they *are unlovable* and thus *should* not attend social events, as it will cause more psychological pain (i.e., perceiving yet more ostracism, which reinforces the belief they are unlovable). Clearly believing in the literality of one's thoughts may be a risk factor for individuals who suffer ostracism. Indeed, according to the TNTM (Williams, 2009), such people tend to believe they are *worthless* and *helpless*, and thus often act in accordance with such thoughts (i.e., they remain isolated and stop attempting to refortify their needs).

As McCracken, Barker, and Chilcott (2014) noted, cognitive fusion is the process in which people become dominated by content of their thoughts, lose track of experiences

outside of the specific content of those particular thoughts, and feel restricted and compelled to act on what the thoughts say they should do. Cognitive defusion, thus, represents the process of becoming distentagled from these thoughts (Blackledge, 2015; Gillanders et al., 2014) such that they do not lead to overly restricted maladaptive behavioral responses (e.g., avoiding all subsequent social invitations following an ostracism experience). Cognitive defusion has clear parallels or overlap with the concept of 'decentering' in the cognitive-behavioral therapy literature; see Bernstein et al., 2015; McCracken et al., 2014, for detailed reviews). Cognitive fusion itself may not be necessarily maladaptive. However, when a person's response repertoire to a stressor such as ostracism is rigid and inflexible (i.e., they always *fuse* with the negative belief about the ostracism), theoretically, at least, it suggests a possible dearth of more adaptive alternatives to cognitive fusion that can be flexibly applied when coping with the emotional distress of social exclusion (Bardeen & Fergus, 2016; Hayes et al., 2012).

**The Present Study**

Waldeck, Tyndall, Riva and Chmiel (2017) found that psychological flexibility moderates the psychological distress following ostracism. This supports the literature showing that psychological flexibility seems to be a key emotional regulation strategy when coping with a wide variety of stressors (Gloster et al., 2011; Kashdan & Rottenberg, 2010). In relation to the focus of the current study, how to cope with emotional distress following ostracism, we need to unpack the finding that psychological flexibility moderates distress following social exclusion in order to identify specific mechanisms of maladaptive or adaptive emotional self-regulation. As noted above, psychological flexibility is a rather broad and complex overarching construct, comprising six different sub-processes. Little empirical research has been conducted to date as to how each of these processes interact with each other to exacerbate or prolong psychological distress (e.g., Roush, Brown, Mitchell, &

Cukrowicz, 2017). Bardeen and Fergus (2016) performed one of the few studies that have examined the interaction effect of cognitive fusion and experiential avoidance, in this case with respect to anxiety, depression, and posttraumatic stress symptoms. They found that the combination of high cognitive fusion and high experiential avoidance may be a particular risk factor for experiencing prolonged psychological distress and subsequent development of psychopathology. Bardeen and Fergus further suggested that the extent to which experiential avoidance is a person's primary or sole source of emotional regulation may determine when experiential avoidance leads to undesirable or maladaptive consequences or outcomes.

Thus, the aim of the present study was to further validate the finding that psychological flexibility moderates distress following ostracism, and more specifically, to examine whether experiential avoidance and cognitive fusion both have this effect. This might lead to useful suggestions that focus specifically on targeting that particular process (i.e., experiential avoidance or cognitive fusion) following ostracism rather than the more complex higher-order construct of psychological flexibility. It could also potentially inform the literature on behavioral regulation inhibition systems and an approach-avoidance conflict in ostracism (e.g., Jonas et al., 2014; Rajchert & Winiewski, 2016). Unlike previous studies assessing everyday experiences with perceived ostracism (e.g., Scott, Zagenczyk, Schippers, Purvis, & Cruz, 2014; Wu, Yim, Kwan, & Zhang, 2012), we extended this research beyond (i.e., over the past 6 months) a focus on typical short-term ostracism episodes (e.g., minutes to hours) alone where one typically recovers and fortifies their needs (Riva et al., 2014). Based on Bardeen and Fergus's (2016) findings, we hypothesized that high levels of both experiential avoidance and cognitive fusion would interact to predict high levels of psychological distress from perceived ostracism.

**Method**

**Participants and procedure**

Two hundred and eighty-six internet users (198 female) were recruited using an online survey distributed through emails to Universities within the UK, websites, social media platforms, and Internet data collection sites designed for academic researchers (e.g., http://www.findparticipants.com). There was a somewhat even distribution of collection from internet sites (e.g., Facebook [35.4%]), university emails (27.3%), and online research platforms (24.5%). The participants ranged between 18 and 74 years of age ($M$= 27.3; $SD$=10). The majority of participants were either of British (38.8%) or American (28%) nationality. Furthermore, 82 per cent of the sample identified themselves as being of a white ethnic background. Before data collection began, the study gained approval by the Institutional Research Ethics committee.

To help reduce potential common method biases, the measures were separated psychologically (i.e., to distract from the aims of the survey) by using a filler task (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Use of filler tasks are common within online surveys to limit biased responding (e.g., Burns, Moneith, & Parker, 2017), and tend to be adopted when examining ostracism paradigms (e.g., Knausenberger & Etcheroff, 2018; Ren et al., 2013). A word completion task was used after the predictor measures were completed. Participants were required to enter the missing letter (s) for a series of 30 randomised presented words. We chose 30 items as opposed to other studies (e.g., Anderson, Carnagey, & Eubanks, 2003) that include up to 98 terms to reduce potential fatigue in participant responding[1]. The words were selected by an online word generator (e.g.,

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[1] Podsakoff et al. (2003) recommend that the survey length be *long enough* to limit responses from previous items being held in short-term memory, and thus influencing subsequent items. The average completion time for each survey was 27 minutes. The expected completion time for the survey was advertised to be 30 minutes. Therefore, the likelihood of fatigue we believe to be low as a result of adding the filler task.

[www.watchout4snakes.com](www.watchout4snakes.com)) and then the letters that were deleted were based on numbers selected by an online random number generator (e.g., [www.random.org](www.random.org)). All words in the filler task were retained if they were considered neutral (i.e., no emotive words such as 'sadness' or 'joy', which may prime participants prior to completing). Example neutral words included *Chewing* and *Biological*.

## Predictor Variables

### Perceived ostracism.

Participants completed a modified version of the 10-item Workplace Ostracism Scale (WOS; Ferris, Brown, Berry, & Lian, 2008). The WOS was developed to assess the frequency of perceived ostracism in the workplace (e.g., "others ignored you at work"). Given we were interested in 'global' (i.e., any context) perceived ostracism, the items were adjusted to remove the context-dependent focus (e.g., "others ignored you", "others avoided you", and "other treated you as if you weren't there"). The WOS has been demonstrated to have good reliability and construct validity in previous research (e.g., O'Reilly, Robinson, Berdahl, & Banki, 2014; Wu et al., 2012). Participants answered using a 7-point Likert scale from 1= "never" to 7 = "always" ($\alpha$ = .95). Participants were asked to complete the modified WOS by thinking about experiences of ostracism that occurred over the last *six months*.

### Experiential Avoidance

The Brief Experiential Avoidance Questionnaire (BEAQ; Gámez et al., 2014) is a 15-item measure of experiential avoidance. The BEAQ has demonstrated good convergent validity with the Multidimensional Experiential Avoidance Questionnaires (MEAQ; Gámez,

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Furthermore, anticipation of additional surveys (i.e., temporal separation) can also increase fatigue in responding; Porter, Whitcomb, & Weitzer, 2004).

Chmielewski, Kotov, Ruggero, & Watson, 2011) from which it was derived, and was developed with separate student, community and patient samples. Participants responded to items using a 6-point Likert scale from 1 (strongly disagree) to 6 (strongly agree), ($\alpha$ = .87). Sample items include, "The key to a good life is never feeling any pain" and "I would give up a lot not to feel bad". Higher scores indicate greater levels of experiential avoidance.

### Cognitive Fusion

The Cognitive Fusion Questionnaire (CFQ; Gillanders et al., 2014) is a 7-item measure of cognitive fusion that assesses the tendency for people to struggle and become entangled with upsetting thoughts. Participants responded to items using a 7-point Likert scale from 1 (not at all true) to 7 (completely true), ($\alpha$ = .92). Sample items include: "I struggle with my thoughts" and "I get upset with myself for having certain thoughts". The CFQ possesses good internal consistency, validity, and test-retest reliability in community samples (Gillanders et al., 2014). Higher scores indicate greater cognitive fusion.

## Outcome Variables

### Psychological Distress.

To assess psychological distress, participants completed 21 items from the Depression Anxiety and Stress Scales (DASS-21; Lovibond & Lovibond, 1995). The DASS-21 has been demonstrated to have sufficient construct validity in non-clinical samples (Henry & Crawford, 2005). Participants rated the frequency and severity of experiencing psychological distress in the last week. The items were rated on a 4-point Likert scale ($\alpha$ = .93), where 0 represented "did not apply to me at all" and 3 represented "applied to me very much or most of the time". Sample items include: "I felt that life was meaningless" and "I found it difficult to relax". Higher scores indicate greater psychological distress.

**Analysis**

Structural equation modeling was used to test whether and how the relationship between perceived ostracism and psychological distress was moderated by experiential avoidance and cognitive fusion. Specifically, psychological distress was regressed on the three predictors (i.e., perceived ostracism, experiential avoidance, and cognitive fusion), estimating a full model that included all the two- and three-way interaction terms. All the observed variables were mean-centered before running the model. Single-indicator latent variables were computed as a mean to include measurement error in the model, preventing the estimation of too many parameters compared with the sample size. Numerical integration was needed to estimate latent variable interactions (Muthén, 2012), thus the common fit indices based on chi-square could not be computed. However, log-likelihood (*LL*), Bayesian information criterion (*BIC*), and Akaike information criterion (*AIC*) were reported. Starting from the full model and using a stepwise backward method, non-significant interaction terms were excluded one at a time, based on their order (i.e., third-order term was considered before second-order ones) and magnitude of regression parameter (i.e., lower parameters were excluded before higher ones). This procedure was repeated until the optimal, most parsimonious model was reached, namely until the log-likelihood difference test yielded a non-significant result. Indeed, a non-significant log-likelihood difference indicates that the model with less parameters did not fit the data significantly worse than the model with more parameters. Simple slope analysis was conducted on significant interaction term(s), testing the slopes at 1-standard deviation above and below the mean of each latent variable. Data were analyzed using the software Mplus, version 7 (Muthén & Muthén, 2015).

**Results**

Data were cleaned prior to analyses as only participants who completed the full set of measures were taken forward (n = 286). Further, data were checked for quality and distribution. The WOS demonstrated significant kurtosis (3.07). To help reduce the influence of the non-normal distribution of the WOS, maximum likelihood with robust standard errors was used as the estimation method. Table 1 reports means, standard deviations and correlations among all measures (i.e., WOS, CFQ, BEAQ, and DASS-21).

The full model M1 ($LL$ = -4426.41, $BIC$ = 8954.64, $AIC$ = 8888.83) yielded significant main effects for all the three predictors, but only one significant interaction, namely that between ostracism and experiential avoidance. Given the presence of non-significant interaction terms, the full model was considered suboptimal and non-parsimonious, thus a series of nested, more restricted models were tested. Excluded parameters and fit statistics of all the models tested are reported in Table 2. The corrected log-likelihood difference test was always in favor of the more restricted model until all the non-significant interaction terms were excluded, that is until M4. On the contrary, the comparison between M4 and its restricted version M5 was associated to a significant probability of the difference test, indicating that the larger model (i.e., M4) fitted the data significantly better than the restricted one (i.e., M5). Thus, M4 was considered the optimal and most parsimonious model to explain our data and it was depicted in Figure 1.

In M4, all the predictors showed significant, positive effects on psychological distress, but the only significant interaction term retained was that between perceived ostracism and experiential avoidance. The simple slope analysis reported in Figure 2 indicated that for low levels of experiential avoidance (i.e., 1 standard deviation below the mean), the relationship between perceived ostracism and psychological distress was not significant, $b$ = 0.21, $p$ = .07.

However, when experiential avoidance was at average, $b = 0.46$, $p < .001$, or high levels (i.e., 1 standard deviation above the mean), $b = 0.71$, $p < .001$, perceived ostracism was associated with increased psychological distress.

## Discussion

The present study replicated previous research (Waldeck et al., 2017) that found that psychological flexibility moderated psychological distress following perceived ostracism. However, the present study added a critical examination of two core components of psychological *in*flexibility, suggesting that experiential avoidance moderated distress from perceived ostracism, but cognitive fusion did not interact with distress from perceived ostracism at a 6-month time frame once it was included in the same model as experiential avoidance. The analyses do not suggest that cognitive fusion is not an important factor or moderator of distress from perceived ostracism. Rather, it is apparent that the most parsimonious model clearly demonstrated that the moderating effects of cognitive fusion on distress were in fact accounted for by experiential avoidance alone. Thus, it appears that experiential avoidance might be the key driver underpinning the negative effects of psychological inflexibility in coping with distress from everyday experiences of ostracism over a large period (i.e., 6 months).

It is not readily apparent from the available literarature on the psychological flexibility model as to why there was no significant moderating interaction effect of cognitive fusion on psychological distress from perceived ostracism over a longer term (i.e, 6 months). For example, Trindado, Ferreira, and Pinto-Gouveia (2017) employed a latent growth analysis to examine emotion regulation in coping with inflammatory bowel disease, and found that cognitive fusion influenced both physical and psychological health over a period of 18 months. Furthermore, Roush et al. (2017) examined both experiential avoidance and

cognitive fusion in relation to suicidal ideation and found that the cognitive fusion was linked to suicide ideation, although this relationship was mediated by a thwarted need-to-belong. With respect to osctracism and the focus the current study, it could be argued, perhaps, that only by accepting (i.e., not struggling with) one's distressing thoughts following ostracism leads to a change in how one copes with (or relates to) such experiences. In contrast, those who are low in fusion) i.e., defused) may not believe the painful thoughts per se, but the persistence of such thoughts (and subsequent avoidance strategies) may lead to continued distress. This is more speculation, and further research is needed to examine such temporal moderation effects on distress in more depth (see Gil-Luciano, Ruiz, Valdiva-Salas, & Suarez, 2017; Gouveia-Pinto et al., 2018, for recent nuanced discussion of role of cognitive fusion in psychological inflexibility).

The current design represents an advance on much of the research on coping with *short-term* (e.g., minutes to hours after ostracism event) ostracism alone. As such, it might serve as a useful jumping-off point to develop future research that examines the transition from the reflective to the resignation stage of the TNTM, as there is little empirical literature to demonstrate how this development or transition occurs (Riva et al., 2016). Indeed, one possible implication of the present study is that persistently engaging in experiential avoidance over the longer term might serve as a particular vulnerability factor for the progression to the resignation stage of the TNTM for those who suffer chronic ostracism.

Experiential avoidance could eventually help link disparate research on how the various moderators outlined in the literature influence recovery from ostracism. For example, Wesselmann et al. (2013) found that excessive rumination hinders recovery from ostracism. Rumination is characterised by its fixated, passive, and repetitive nature (McCracken et al., 2014; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). In the context of a perceived ostracism event, rumination would result in a cyclical process of repetitively thinking about

the reasons for the exclusion and how it made the ostracized person feel emotionally. Rumination strongly resembles experiential avoidance, and 'acceptance' (i.e., the opposite of experiential avoidance) likely represents a release from rumination. Experiential avoidance could, conceivably, help explain the positive short-term effects of the use prayer and distraction techniques (Hales et al., 2016), as they could be viewed as examples of experiential avoidance strategies which might work in the short-term coping with ostracism but could potentially be detrimental in the long-term (see Kashdan et al., 2013).

Similarly, Ren et al. (2016) reported that engaging in withdrawal from social contact (i.e., solitude seeking) appeared a useful buffering mechanism to cope with ostracism in the short-term. Solitude seeking is likely an instance of experiential avoidance, and thus might have short-term benefits in relieving distress but likely have negative long-term consequences for the ostracized individual through a cyclical process of negative reinforcement. Furthermore, experiential avoidance might help elucidate the mechanisms underlying the positive effects of focused attention and mindfulness-based interventions on recovery from ostracism (e.g., Ford, 2017; Molet, Macquet, Lefebrve, & Williams, 2013; Ramsey & Jones, 2015), as both processes are conceptually linked to attentional awareness or attentional modification (i.e., how or where a person's attention is directed towards their distressing thoughts and feelings regarding their ostracism; see also, Hereen, Lievens, & Philipott, 2011, for a related discussion regarding attention training in social phobia).

It could be argued that while the ACT model posits that the combination of experiential avoidance and cognitive fusion is a key driver of extent of emotional distress experienced (Bardeen & Fergus, 2016; Hayes et al., 2012), the present study does not fully acknowledge the breadth of the broad construct of psychological flexibility. In particular, it could be argued that the present design does not take the key role of context into account. For example, as Gloster et al. (2011) put it, psychological flexibility is context dependent in that a

psychologically flexible response is influenced by the interaction among the psychological content a person is experiencing, the present moment itself, and one's own chosen values. It is clear that the current study does not take context into account but this is a criticism that could be labelled at the majority of research on psychological flexibility and experiential avoidance (see Kashdan et al., 2013; Kashdan & Kane, 2011; Wolgast 2014) as the available instruments are constrained by being context free. Indeed, Karademas et al. (2017) reported that the relationship between experiential avoidance and pain catatstophising in chronic pain patients was not uniform but quite context dependent. Moreover, few instruments have been developed that can readily assess a person's attention to the present moment or commitment to behaving in accordance with their own chosen values in research designs such as these, certainly, at least, in relation to responses to perceived ostracism.

### Limitations and Future research

The present study is naturally limited by employing a correlational design. However, this study serves as an important first step in examining the potential interaction of experiential avoidance and cognitive fusion in moderating emotional distress following perceived ostracism, for as noted by Bardeen and Fergus (2016), there is a large theoretical literature base for positing this relationship between these two processes but little extant emprical literature. Indeed, Bardeen and Fergus (2016) conducted the first study to assess this relationship finding an interaction effect with high cognitive fusion and high experiential avoidance a particular risk factor for the development of psychopathology in terms of symptoms of anxiety and stress.

It must be acknowledged that the large majority of research into psychological flexibility and experiential avoidance as moderators of psychological distress and well-being (including Waldeck et al., 2017) has employed the Acceptance and Action Questionnaire-II

(AAQ-II; Bond et al., 2011). The AAQ-II is a 7-item self-report instrument designed to measure both psychological flexibility and experiential avoidance, as Bond et al. conceptualised experiential avoidance as being synomymous with psychological inflexibility. However, despite some evidence for the psychometric soundness of the AAQ-II as a measure of psychological flexibility (e.g., Gloster et al., 2011), there is ongoing concern over the validity of the AAQ-II to adequately assess all six components of psychological flexibility. For example, two separately developed measures, Fergus et al.'s (2012) *Avoidance and Fusion Questionnaire for Youth* and Frances et al.'s (2016) *CompACT*, have certain claims to be more robust measures of psychological flexibility/inflexibility than the AAQ-II. More pertinently to the present study, there are ongoing concerns over the AAQ-II a measure of experiential avoidance (e.g., Gámez et al., 2011; Vaughan-Johnston et al., 2017; Wolgast, 2014). Thus, in the present study we utilised the BEAQ (Gámez et al., 2014) as a it is specifically purported to assess experiential avoidance. There might be some who could argue that the BEAQ does not measure experiential avoidance as it is conceived within the ACT model. However, there appears ample face validity as over half of the 15 items in the BEAQ examine avoidance of internal thoughts, feelings, and emotions. Furthermore, as noted in the Method, the BEAQ is derived from the larger MEAQ which has recently been shown to demonstrate superiority over the AAQ-II in accouting for experiential avoidance (see Rochefort, Baldwin, & Chmielewski, 2017).

Kashdan and colleagues (2013) noted that most research published in the area of emotion regulation relies on cross-sectional surveys or two-wave survey designs which are useful but have their limitations. Thus, future research is needed that might more naturally assess the role of experiential avoidance and cognitive fusion in coping with perceived ostracism in the moment by employing instruments such as Wesselmann, Wirth, Mroczek, and Williams' (2012) *dial-a-feeling* dialometer that can assess changes in emotions or

feelings (or feelings about feelings) moment-by-moment, rather than relying on retrospective self-report questionnaires. Moreover, more research is needed utilising a diary study method that can track changes in emotional responses to everyday experiences of ostracism day-by-day after the ostracism event and examine the the role of experiential avoidance in observed changes in coping over time (e.g., Machell, Goodman, & Kashdan, 2015; Nezlek, Wesselmann, Wheeler, & Williams, 2012). In a similar vein, future research needs to move beyond self-report measures and employ behavioral methods such as cyberball to induce and record the effects of ostracism such as cyberball (see Waldeck et al., 2017, for a discussion).

Future research on experiential avoidance and ostracism is also needed that follows the important line of enquiry established by Riva et al. (2016) that can potentially find empirical evidence for the use of experiential avoidance as a dysfunctional emotional self-regulation strategy in those who suffer from chronic ostracism and are deemed to be in the resignation stage of the TNTM as very little research to date has examined this final stage of the model. Furthermore, it is somewhat surprising that there are so few well-established measures of ostracism in adults in the published literature. The current range of available self-report instruments is very limited and hence the present study relied on an adaptation of the WOS scale (Ferris et al., 2008). Future research is needed to develop psychometrically robust scales to measure general everyday experiences of ostracism. Similar to Waldeck et al. (2017), the present study is limited by having an imbalanced gender ratio but this is a common occurrence with online sampling (see also Gerhart et al., 2014). Future research could aim to build in controls to sample gender more evenly.

One potentially fruitful avenue of exploration might be to link research on experiential avoidance with that on interoceptive sensitivity in the context of distress from ostracism. Experiential avoidance may include an avoidance of internal bodily signals and sensations. Research has generally found that interoceptive sensitivity, which refers to a

person's ability to accurately perceive and discriminate their internal bodily signals such as their heartbeat rate and rate of breathing, appears to be linked to emotional regulation. For example, Pollatos, Matthias, and Keller (2015) conducted two studies, one which employed the Cyberball paradigm (i.e., a computer programed ball-toss game designed to induce an online experience of ostracism, Williams et al., 2000), and a second that utilized a self-report survey method. Pollatos et al. found that having increased access to internal bodily signals helped overcome the negative effects of social exclusion and linked this effect to the likely association of interoceptive sensitivity with successful emotion regulation strategies (see also Werner, Kershreitor, Kinderman, & Duschek, 2015). Thus, it seems that reducing experiential avoidance following ostracism could perhaps, result in an increase in interoceptive awareness that might subsequently lead to a more adaptive functional emotional regulation strategy or coping mechanism to deal with the psychological pain.

**Conclusion**

The present study replicated previous research that found that psychological flexibility moderates psychological distress following perceived ostracism. However, the current research went beyond past research by examining the moderating effects on psychological distress of two key processes of psychological inflexibility, experiential avoidance and cognitive fusion, and found that experiential avoidance appears more pertinent in coping with distress from ostracism in the more intermediate to longer term. This is not to say, however, that cognitive fusion may not be an important factor in delayed recovery from perceived ostracism in the short-term (e.g., minutes to days after a ostracism event). An overriding implication is that engaging in intervention techniques aimed at reducing reliance on experiential avoidance as the sole longer-term emotional self-regulation strategy (Bardeen & Fergus, 2016; Kashdan et al., 2013) to cope with emotional distress following perceived ostracism is likely a fruitful strategy to pursue.

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Table 1.

Means, standard deviations, and correlations between study variables (*N*=286).

| Variables | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. WOS | | | | |
| 2. CFQ | .29* | | | |
| 3. BEAQ | .23* | .64* | | |
| 4. DASS-21 | .39* | .70* | .58* | |
| Mean | 22.69 | 30.76 | 50.70 | 38.30 |
| SD | 10.68 | 10.28 | 12.87 | 26.78 |

Note: * *p* <.01.

Table 2.

The fit indices, excluded parameters, and corrected log-likelihood difference test of the structural equation models tested.

|  | Excluded parameter | *LL* | *BIC* | *AIC* | *LL* Diff. Test |
|---|---|---|---|---|---|
| M1 | --- | -4426.41 | 8954.64 | 8888.83 | --- |
| M2 | PO x EA x CF | -4426.47 | 8949.09 | 8886.94 | 0.21 *ns* |
| M3 | PO x CF | -4427.20 | 8944.90 | 8886.41 | 1.49 *ns* |
| M4 | EA x CF | -4428.19 | 8941.22 | 8886.38 | 2.50 *ns* |
| M5 | PO x EA | -4431.90 | 8942.98 | 8891.80 | 27.81* |

*Note.* PO = Perceived Ostracism; EA = Experiential Avoidance; CF = Cognitive Fusion.

\* $p < .001$, *ns* = non-significant.

List of Figure Captions:

Figure 1. SEM Model, M4, showing the interactive effect of experiential avoidance (EA) and

perceived ostracism (PO) on psychological distress while accounting for cognitive
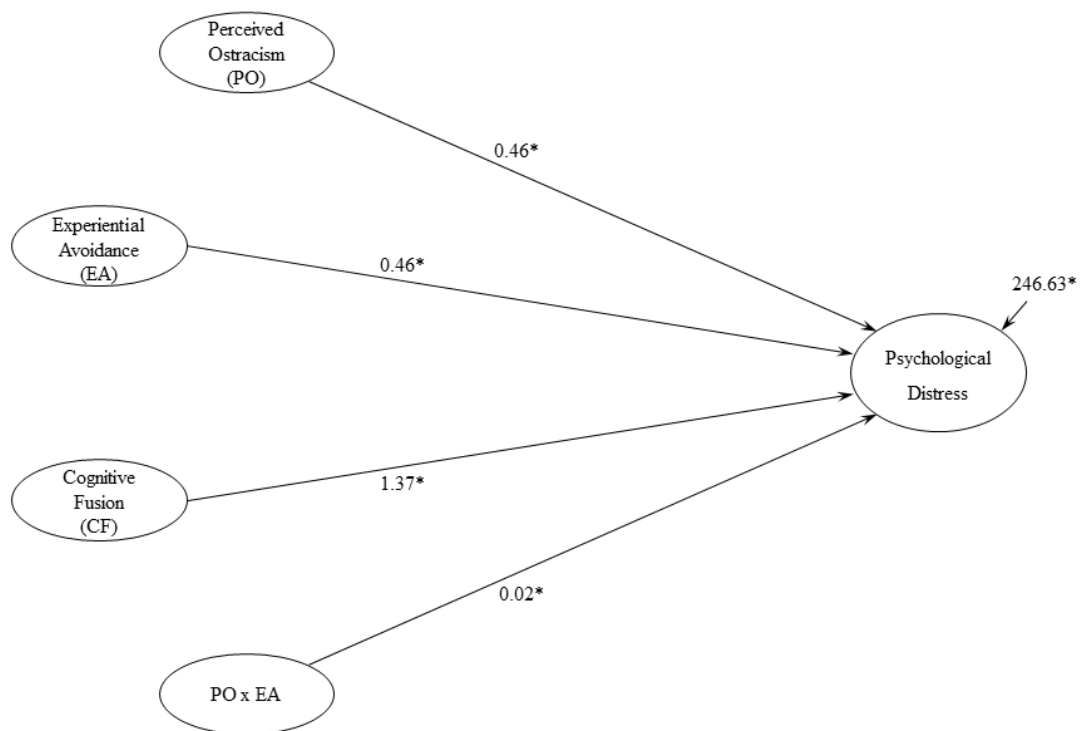
fusion (CF).

Figure 2. Simple slopes analysis depicting the relatuonship between perceived ostracism and psychological distress at low, average, and high levels of experiential avoidance.