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**On the relation between mind wandering, PTSD symptomology, and self-control.**

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### **Abstract**

In present study, we examined the association between mind wandering, PTSD symptomology, and self-control. In a large undergraduate sample ( $N = 2142$ ), we assessed trait-level spontaneous and deliberate mind wandering, self-control (as indexed by the brief self-control scale; Tangney, et al., 2004), and PTSD symptomology using the PCL-5 scale. Results indicated that whereas spontaneous mind wandering was uniquely positively associated with PTSD symptomology, deliberate mind wandering and self-control were uniquely negatively associated with PTSD symptomology. These findings suggest that PTSD symptomology, and traumatic intrusions, may indeed reflect a similar mechanism as everyday mind wandering. Moreover, the unique association with self-control suggests that PTSD symptomology is characterized, not only by impairments in inhibiting unwanted thoughts specifically (as indexed by mind wandering), but also by impairments in inhibiting other unwanted behaviors.

## Introduction

After a traumatic event, people commonly experience intrusive thoughts and memories. For most people, the frequency and severity of these traumatic intrusions subsides over time (Bonanno & Mancini, 2008; Mayou, Bryant, & Duthie, 1993; for a review, see Iyadurai, et al., 2019). However, continued and persistent traumatic intrusions can be symptomatic of posttraumatic stress disorder (PTSD), a disabling anxiety disorder that develops in response to terrifying, life-threatening, or otherwise traumatic events (Brewin, 2014; Brewin & Holmes, 2003; Ehlers & Clark, 2000). Intrusions are considered symptomatic of PTSD when they are “recurrent, involuntary, and intrusive distressing memories of the traumatic event” (American Psychiatric Association, 2013). Though even when traumatic intrusions do not meet the full diagnostic criteria, such thoughts can still be associated with clinical impairment (sub-threshold PTSD; Zlotnick, Franklin, & Zimmerman, 2002). Accordingly, traumatic intrusions are typically considered to lie on a continuum with other non-clinical, involuntary thought (e.g., Berntsen, 2009; Iyadurai, et al., 2019; Meyer, et al., 2015).

Intrusive thoughts are central to PTSD symptomology because they can activate other symptoms of the disorder (Bryant et al., 2017; see also Haag, Robinaugh, Ehlers, & Kleim, 2017; Iyadurai, et al., 2019). For instance, experiencing a traumatic intrusion can cause emotional distress (Ehlers & Steil, 1995; Foa & Riggs, 1993) and the distraction by internal thoughts can cause cognitive failures (e.g., Clark and Mackay, 2015; Kleim, Ehling, Ehlers, 2012; Pineles, Shipherd, Mostoufi, Abramavovitz, Yovel, 2009) disrupting day-to-day functioning (e.g., Holmes et al., 2017). Failing to regulate these intrusive thoughts is also associated with impairments of inhibitory control (e.g., Anderson and Levy, 2009; Degutis, et al., 2015; Bomyea and Lang, 2015; Verwoerd et al., 2009) and poor self-control (Walter et al., 2010), suggesting that general impairments in control might underlie or exacerbate traumatic intrusions. Thus, it is important to determine what factors are implicated in the failure to regulate intrusive thoughts, and by extension what factors may contribute to the continued persistence of intrusive thoughts associated with clinical impairment.

Independently, there has been an increasing amount of work investigating mind wandering, the unintentional shifting of attention toward internal thoughts (e.g., Smallwood & Schooler, 2006; Smallwood et al., 2007). Mind wandering, like traumatic intrusions, involves distraction by internal thought causing inattention to focal tasks (Smallwood & Schooler, 2006) and has been associated with impulsivity (Cheyne, Solman, Carriere, & Smilek, 2009), poor sustained attention (Seli, Carriere, Levene, & Smilek, 2013; Seli, Cheyne, & Smilek, 2013) and poor self-control (e.g., Moon et al., 2020; Phillips et al., 2016). As such, mind wandering has also been associated with disruptions in day-to-day functioning across a variety of contexts (educational settings: Szpunar, Khan, & Schacter, 2013; Risko, Anderson, Sarwal, Engelhardt, & Kingstone, 2012; workplace settings: Knowles, & Tay, 2002).

Mind wandering, however, is a multi-dimensional construct encompassing a range of heterogeneous experiences (Seli et al., 2018). One theoretically important dimension distinguishes between deliberate and spontaneous mind wandering. Prior research has shown that mind wandering can occur deliberately, with intention, or spontaneously, without intention, both in the

laboratory (e.g., Giambra, 1995; Seli, Cheyne, Xu, Purdon, & Smilek, 2015; Seli, Risko, and Smilek, 2016; Seli, Wammes, Risko, & Smilek, 2015) and in everyday life (e.g., Carriere, Seli, & Smilek, 2013; Seli, Carriere, & Smilek, 2015; Seli, Smallwood, Cheyne, & Smilek, 2015). Whereas spontaneous mind wandering seems to reflect difficulties in self-control (Isacescu et al., 2016; Phillips et al., 2016), increased distractibility, and lapses in focal task attention (Carriere et al., 2013; Seli, Carriere, & Smilek, 2015; Seli, Cheyne, Xu, Purdon, and Smilek, 2015), deliberate mind wandering does not seem to reflect executive dysfunction. Instead, deliberate mind wandering seems to reflect the willing engagement or active pursuit of thought by intentionally directing attention internally. Thus, deliberate mind wandering might be better characterized as a desire to direct attention internally and successful controlled processing (Carriere et al., 2013; O'Neill, et al. 2020; Seli, Carriere, & Smilek, 2015; Seli, Cheyne, Xu, Purdon, and Smilek, 2015; Seli, Risko, and Smilek, 2016;).

Given the similarity between mind wandering and traumatic intrusions, there has been surprisingly few studies investigating their potential relationship. Neural evidence, for example, has implicated a role for the default mode network, an important network of regions that support internally focused thought (Andrews-Hanna 2012; Dankert & Merrifield, 2018; Buckner et al. 2008; Gusnard et al. 2001; Mason et al. 2007; Raichle et al. 2001), for both mind wandering (Christoff et al. 2009; Gusnard et al. 2001; Mason et al. 2007; Stawarczyk et al. 2011) and PTSD symptomology (Josh et al., 2020; Patel, Spreng, Shin, & Girard, 2012; Patriat, Birn, Keding, & Haringa, 2016; Sripada et al., 2012). Yet, there is no work linking the two directly. Takarangi, Strange, and Lindsay (2014; 2016), using a behavioral trauma film paradigm, found that participants often lacked meta-awareness of trauma-related thoughts. The lack of meta-awareness, they argued, conceptually links mind wandering and traumatic intrusions along a continuum of 'intrusive thoughts' (though, see Meyer, Otgaar, and Smeets, 2015). Despite these few exceptions, however, the relationship between mind wandering and PTSD symptomology, largely remains unexplored.

Returning to the aforementioned subtypes of mind wandering, we might expect that PTSD symptomology is associated with spontaneous mind wandering in terms of general failures in control. That is, both spontaneous mind wandering and traumatic intrusions might be caused by the same deficiency in inhibitory control processing (Aupperle et al., 2012; Degutis, et al., 2015; Verwoerd et al., 2009, Bomyea et al., 2012) or regulatory control (Isacescu et al., 2016; Phillips et al., 2016). Thus, we would expect spontaneous mind wandering and PTSD symptomology to be positively associated. Deliberate mind wandering might be related to PTSD symptomology in two different ways. First, it may be the case that engaging in deliberate mind wandering (i.e., focused internal attention) might rely on the same underlying control processes that are required to *inhibit* spontaneous mind wandering. Second, deliberate mind wandering may be associated with PTSD symptomology in terms of one's desire to avoid internally directed attention. That is, those who suffer from traumatic intrusions often *avoid* internally directed attention due to the negative consequences of trauma-related thoughts. Avoidance is a common coping strategy for those with PTSD and although it may be adaptive in the short-term persistent avoidance can keep individuals from learning to inhibit unwanted thoughts inadvertently helping

to maintain the disorder (e.g., Aupperle, et al., 2012; Foa and Kozak, 1986). In both cases, we would expect deliberate mind wandering to be negatively associated with PTSD symptomology.

Despite their similarities, however, there is also reason to suspect that mind wandering and traumatic intrusions are qualitatively distinct phenomena, and perhaps, unrelated in terms of underlying mechanisms (e.g., Meyer, et al., 2015). Whereas traumatic intrusions are often vivid, highly distressing, negative experiences, likened to re-living the past (i.e., flashbacks). Mind wandering can be negative *or* positive (i.e., daydreaming), fleeting experiences, that can go unnoticed. As we already noted, whereas people can intentionally engage in mind wandering, traumatic intrusions are exclusively involuntary. Finally, traumatic intrusions are by definition “traumatic”—a negative evaluative judgment of the experience which requires meta-awareness. Mind wandering, in contrast, can often occur without meta-awareness (). Therefore, it is not clear whether mind wandering and traumatic intrusions share cognitive etiology or merely share phenomenological features.

Finally, intrusive thoughts are often viewed as the expression of a lack of self-control. Self-control, broadly defined, is the general ability to regulate one’s thoughts, emotions, impulses, and behavior (Baumeister and Vohs 2007). Both PTSD symptomology (e.g., Walters et al., 2011) and spontaneous mind wandering (e.g., Isacescu et al., 2016; Phillips et al., 2016) have been shown to be negatively associated with trait-level measures of self-control (Tangney et al., 2004). However, the relationship between mind wandering, PTSD symptomology, and mind wandering has remained unexplored. An additional question, then, is whether mind wandering and self-control are uniquely associated with PTSD symptomology. For instance, we might expect that if mind wandering and traumatic intrusions are associated to the extent that they share the same general impairments in self-control, then mind wandering would not be uniquely associated with PTSD symptomology once individual differences in self-control are accounted for. Conversely, PTSD symptomology may only be associated with self-control to the extent that it relates to thought-control specifically, rather than other forms of behavioral control. As such, we might expect that trait-level self-control may not be uniquely associated with PTSD symptomology once individual differences in thought-control are accounted for (i.e., spontaneous and deliberate mind wandering measures).

### **The Present Study**

In the current study, we examined the relationship between mind wandering, self-control, and PTSD symptomology. In particular, we were interested in determining whether spontaneous and deliberate mind wandering would be uniquely associated with PTSD symptomology above and beyond general impairments in control. Similarly, given that a failure to control thoughts and memories is the hallmark of PTSD, we were also interested in determining whether general failures in self-control uniquely predict PTSD symptomology after taking into account deliberate and spontaneous mind wandering.

To that end, we conducted a large survey of undergraduate psychology students assessing (1) trait levels of deliberate mind wandering (assessed by the Mind Wandering: Deliberate Scale;

MW: D; Carriere, Seli, and Smilek, 2013), (2) trait levels of spontaneous mind wandering (assessed by the Mind Wandering: Spontaneous Scale; MW: S; Carriere et al., 2013), (3) PTSD symptomology (assessed by the DSM-version of the PTSD checklist; PCL-5; F. Weathers, Litz, Herman, Huska, & Keane, 1993; F. W. Weathers et al., 2013), and (4) trait levels of self-control (assessed by the brief self-control scale; BSCS; Tangney, Baumeister, and Boone, 2004).

## **Participants**

Participants were 2350 undergraduate psychology students at the University of Waterloo (mean age was 21.21; 1800 participants identified as female). Each participant completed a series of questionnaires in the first month of classes. Included were the scales of interest (spontaneous and deliberate mind wandering scales, the brief self-control scale, and the PCL-5) as well as numerous other questionnaires that were of interest to other researchers and not analyzed in the present study. The order of the questionnaires was randomized and participants were unaware of the relatedness of our scales. Participants received partial course credit for completing the study.

## **Measures**

### ***Deliberate and spontaneous mind wandering***

To measure mind wandering, we used the four-item spontaneous mind wandering scale (MW: S) and the four-item deliberate mind wandering scale (MW: D) for unintentional and intentional mind wandering, respectively (Carriere et al., 2013). The deliberate mind wandering scale includes items related to intentional mind wandering, such as: “I allow my thoughts to wander on purpose,” whereas the spontaneous mind wandering scale includes items related to unintentional mind wandering, such as: “I find my thoughts wandering spontaneously.” Both scales are scored using a seven-point Likert scale with “rarely” (1) and “a lot” (7) as anchors.

### ***PCL-5 (PTSD checklist for DSM-5)***

The PCL-5 is a 20-item self-report measure that assesses all DSM-5 PTSD symptoms (Weathers et al., 2013). Responses are rated on a scale of 0 to 4, with 0 indicating no experience of a symptom and 4 indicating an extreme experience with a symptom. Participants were instructed to indicate the extent to which they were bothered by each symptom in the past month. The PCL-5 has been found to exhibit strong reliability and validity in psychometric evaluation (Blevins, Weathers, Davis, Witte, & Domino, 2015). An item-level score of 2 or more indicates a clinical endorsement (Weathers et al., 2013). A cut-off score of 31 and greater indicates probable PTSD (Bovin et al., 2016).

### ***Brief self-control scale***

Self-control was assessed using the brief self-control scale (BSCS), a 13-item self-report measure of general self-control (Tangney et al., 2004). Participants used a 5-point scale to indicate how well statements described them (i.e., “I am good at resisting temptation”). The BSCS focuses on processes that directly involve self-control (e.g., working towards long-term

goals or breaking a habit) and has shown good reliability and validity among college students (de Ridder et al., 2012; Tangney, et al., 2004).

## Results

All data, analysis code, and manuscript preparation code has been made publicly available via Open Science Framework and can be accessed at <https://osf.io/xxxx/>. Prior to all analyses, we removed participants who chose not to respond to any of the questions within the scales of interest, including age. This reduced our final sample size to 2152 participants.

### *Descriptive statistics and correlations*

Descriptive statistics for the MW: D, MW: S, BSCS and PCL-5 are presented in Table 1. As seen in Table 1, the skewness and kurtosis values were all within an acceptable range (i.e., skewness < 2 and kurtosis < 4; Kline, 1998). Next, we examined the Pearson product-moment correlation coefficients for all measures (see Table 2). Here, we see that deliberate and spontaneous mind wandering were both positively associated with PCL-5 scores and negatively associated with BSCS scores. Lastly, as has been shown in previous studies (e.g., Carriere et al., 2013; Seli et al., 2014, 2015, 2017), deliberate and spontaneous mind wandering were positively correlated,  $r = .44$ ,  $p < .001$ .

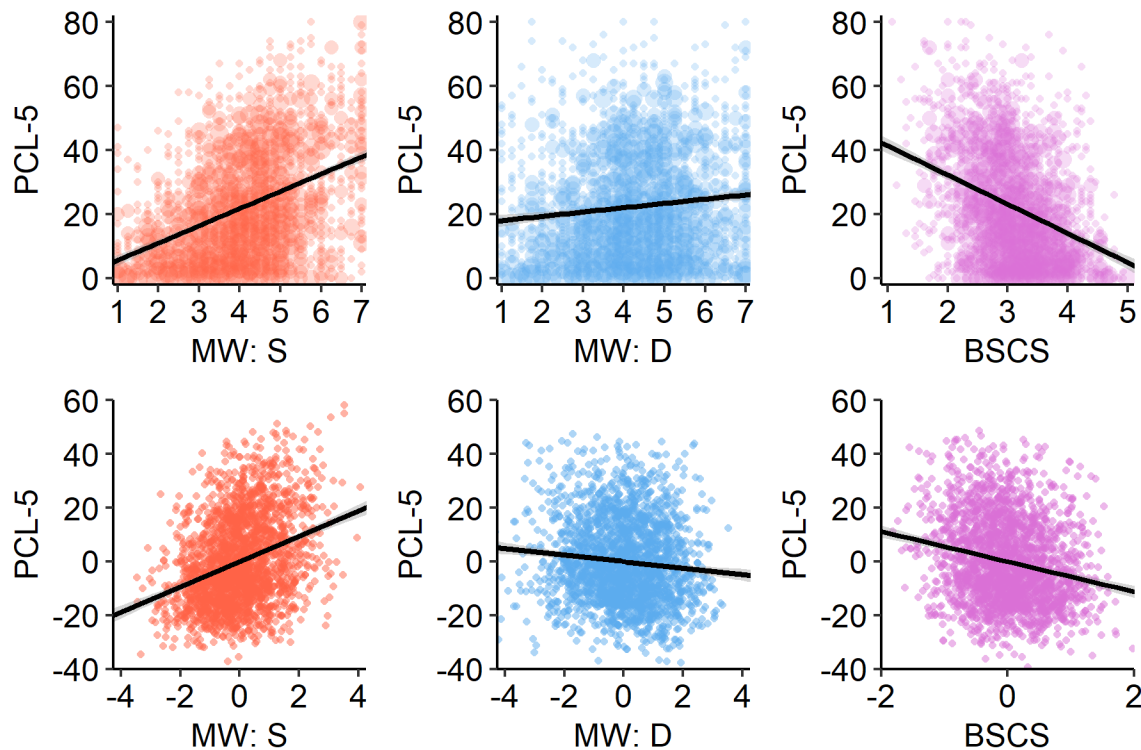


Figure 1

Pearson's product-moment correlations are plotted in the top panels. PCL-5 scores are plotted against spontaneous mind wandering (MW: S; top-left), deliberate mind wandering (MW: D; top-center) and self-control (BSCS; top-right). Partial regression plots are presented in the bottom panels. PCL-5 scores are plotted against spontaneous mind wandering (bottom-left), deliberate mind wandering (bottom-center) and self-control (bottom-right).

### ***Regression analyses***

A three-step hierarchical regression was conducted with PCL-5 scores as the dependent variable (see Table 3). Age and sex were added at step one,  $F(2, 2152) = 6.64, p = .001$ , accounting for 0.5% of the variation. At step two, BSCS scores were added, significantly improving the model,  $F(1, 2151) = 308.96, p < .001$ , and accounting for an additional 12.54% of the variance. Finally, at step three, MW: S and MW: D scores were added, significantly improving the model,  $F(2, 2149) = 126.54, p < .001$ , and accounting for an additional 9.1% of the variance. In the final model, we found that whereas spontaneous mind wandering was positively associated with PCL-5 scores, deliberate mind wandering and self-control were negatively associated with PCL-5 scores.

In addition to the hierarchical regression analyses, we also examined the relationship between mind wandering and each of the PTSD symptom clusters (see Table 3). For each analysis, we included the mind wandering and self-control measures as explanatory measures together with age, sex, and the remaining subscales. The results of these analyses show no significant association between mind wandering and the Intrusion subscale, but a significant positive association with self-control. The Avoidance, Cognitions and Mood, and Arousal and Reactivity subscales were all positively associated with spontaneous mind wandering. However, deliberate mind wandering was only associated with Arousal and Reactivity ( $p = .055$ ). Finally, self-control was negatively associated with both the Cognitions and Mood and Arousal and Reactivity subscales, but not the Avoidance subscale.

## **Discussion**

In the current study, we found that PTSD symptomology (as assessed by the PCL-5) was positively associated with spontaneous mind wandering and negatively associated with deliberately mind wandering after controlling for individual differences in self-control (as indexed by the brief self-control scale; Tangney et al., 2004). Similarly, we found the negative association between self-control and PTSD symptomology remained after including mind wandering measures. These results reinforce prior work demonstrating dissociations between deliberate and spontaneous mind wandering (e.g., Carriere, Seli, & Smilek, 2013; Seli, Carriere, & Smilek, 2015; Seli, Smallwood, Cheyne, & Smilek, 2015) and add to the growing evidence demonstrating the relationship between self-control and PTSD symptomology (e.g., Walters, et al., 2011).



More importantly, however, the unique associations between PTSD symptomology and mind wandering suggests that they may reflect the same underlying mechanism. The current results are consistent with neural evidence that has implicated a role for the default mode network in both mind wandering (Christoff et al. 2009; Gusnard et al. 2001; Mason et al. 2007; Stawarczyk et al. 2011) and PTSD symptomology (Josh et al., 2020; Patel, Spreng, Shin, & Girard, 2012; Patriat, Birn, Keding, & Harringa, 2016; Sripada et al., 2012). However, the negative association between deliberate mind wandering and PTSD symptomology is suggestive of a more complicated relationship further demonstrating the need to distinguish between intentional and unintentional mind wandering.

Additionally, some particularly intriguing results came from the subscale analyses. Surprisingly, we found no evidence that mind wandering was associated with the Intrusion subscale. Given that this subscale includes questions about the frequency of re-experiencing trauma-related thoughts and memories, one might have predicted a strong association here. Instead, we found that both spontaneous and deliberate mind wandering were most strongly associated with the Arousal and Reactivity subscale. This result is important because deliberate mind wandering is, at times, associated beneficial functions like the ability to reflect one's inner experiences in a non-reactive manner (Seli et al., 2014). Thus, it suggests that mind wandering might not only be associated in terms of failing to inhibit unwanted thoughts, but also in terms of successful control over internally directed attention.

Finally, it is worth noting that our sample consisted of undergraduate students, over 75% identifying as female. Experiencing traumatic events is extremely common. It is estimated that 50% to 60% of individuals will experience at least one traumatic event during their lifetime (e.g., Kessler et al., 1995, Ozer et al., 2003), and although not all traumatic experiences result in PTSD, the majority of undergraduate students (85%) report having experienced at least one traumatic event in their lifetime (Frazier, 2009; see Frazier, 2012, for a review; see also: Duncan, 2000; Green et al., 2005; Kessler, et al., 2005; McDevitt-Murphy, Weathers, Flood, Eakin, & Benson, 2007). Our results are consistent with these assessments. Adopting the recommended cut-off score of 31 (Ashbaugh, et al. 2016), for instance, results in a 25.7% prevalence of probable PTSD. Similarly, we found that participants identifying as female reported higher total PCL-5 scores, replicating prior work (). However, breaking down responses into symptom clusters, we found that whereas female participants reported higher Avoidance scores, they also reported *lower* Cognitions and Mood scores.

**Table 1: Descriptive statistics ( $N = 2152$ )**

Measure	<i>M</i>	<i>SD</i>	Skew	Kurtosis	$\alpha$
MW: D	4.24	1.44	-0.16	2.51	0.88
MW: S	4.10	1.38	-0.07	2.67	0.89
BSCS	3.08	0.67	0.05	2.80	0.85
PCL-5 Subscales					
Intrusion	5.63	5.01	0.75	2.72	0.90
Avoidance	2.59	2.37	0.62	2.34	0.88
Cognitions and Mood	7.96	6.89	0.70	2.61	0.91
Arousal and Reactivity	6.17	5.37	0.80	2.94	0.86
PCL-5 Total	22.25	17.68	0.72	2.75	0.96

\*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$

Note: BSCS = Brief Self-Control Scale; MW: S = Spontaneous Mind Wandering; MW: D = Deliberate Mind Wandering

**Table 2: Pearson's product-moment correlations**

	2.	3.	4.	5.	6.	7.	8.
1. MW: D	0.44***	-0.24***	0.09***	0.08***	0.10***	0.11***	0.11***
2. MW: S	-	-0.45***	0.35***	0.33***	0.39***	0.41***	0.42***
3. BSCS		-	-0.26***	-0.23***	-0.34***	-0.37***	-0.35***
PCL-5 Subscales							
4. Intrusion			-	0.79***	0.76***	0.71***	0.90***
5. Avoidance				-	0.69***	0.63***	0.82***
6. Cognitions and Mood					-	0.79***	0.94***
7. Arousal and Reactivity						-	0.90***
8. PCL-5 Total							-

\*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$

Note: BSCS = Brief Self-Control Scale; MW: S = Spontaneous Mind Wandering; MW: D = Deliberate Mind Wandering

**Table 2: Summary of hierarchical regression analysis predicting PCL-5 scores**

Step 1					
Predictors	Estimates	95% CI	<i>t</i>	<i>p</i> -value	
(Intercept)	26.17	20.62 - 31.72	9.25	<.001***	
Age	-0.27	-0.53 - -0.02	-2.14	0.032*	
Sex: Female	2.62	0.87 - 4.38	2.94	0.003**	
R <sup>2</sup> / R <sup>2</sup> adjusted	0.006 / 0.005				
Step 2					
Predictors	Estimates	95% CI	<i>t</i>	<i>p</i> -value	
(Intercept)	54.37	48.3 - 60.44	17.57	<.001***	
BSCS	-9.29	-10.32 - -8.25	-17.58	<.001***	
Age	-0.29	-0.52 - -0.05	-2.4	0.016*	
Sex: Female	3.58	1.94 - 5.23	4.28	<.001***	
R <sup>2</sup> / R <sup>2</sup> adjusted	0.131 / 0.13				
Step 3					
Predictors	Estimates	95% CI	<i>t</i>	<i>p</i> -value	
(Intercept)	26.88	19.71 - 34.05	7.35	<.001***	
MW: S	4.7	4.12 - 5.28	15.84	<.001***	
MW: D	-1.23	-1.74 - -0.72	-4.72	<.001***	
BSCS	-5.6	-6.7 - -4.5	-9.98	<.001***	
Age	-0.16	-0.38 - 0.06	-1.42	0.156	
Sex: Female	2.71	1.15 - 4.27	3.41	<.001***	
R <sup>2</sup> / R <sup>2</sup> adjusted	0.226 / 0.224				

\*\*\**p* < .001; \*\**p* < .01; \**p* < .05

Note: BSCS = Brief Self-Control Scale; MW: S = Spontaneous Mind Wandering; MW: D = Deliberate Mind Wandering

**Table 4: Regression analyses of PCL-5 subscales**

Intrusion					
Predictors	Estimates	95% CI	<i>t</i>	<i>p</i> -value	
(Intercept)	-0.17	-1.4 - 1.06	-0.28	0.782	
MW: S	0.05	-0.05 - 0.16	1.03	0.305	
MW: D	0.02	-0.06 - 0.11	0.49	0.622	
BSCS	0.19	0 - 0.38	1.97	0.049*	
Avoidance	0.99	0.93 - 1.06	29.13	<.001***	
Cognitions and Mood	0.22	0.19 - 0.25	15.05	<.001***	
Arousal and Reactivity	0.16	0.12 - 0.19	8.88	<.001***	
Age	-0.03	-0.07 - 0.01	-1.49	0.137	
Sex: Female	0.23	-0.03 - 0.5	1.72	0.086	
R <sup>2</sup> / R <sup>2</sup> adjusted	0.724 / 0.723				
Avoidance					
Predictors	Estimates	95% CI	<i>t</i>	<i>p</i> -value	
(Intercept)	-0.2	-0.86 - 0.46	-0.6	0.549	
MW: S	0.06	0 - 0.12	2.09	0.036*	
MW: D	-0.01	-0.06 - 0.03	-0.62	0.534	
BSCS	0.07	-0.03 - 0.17	1.33	0.185	
Intrusion	0.29	0.27 - 0.3	29.13	<.001***	
Cognitions and Mood	0.06	0.04 - 0.07	7.05	<.001***	
Arousal and Reactivity	0.03	0.01 - 0.05	2.96	0.003**	
Age	0	-0.02 - 0.02	-0.08	0.939	
Sex: Female	0.22	0.08 - 0.37	3.11	0.002**	
R <sup>2</sup> / R <sup>2</sup> adjusted	0.644 / 0.643				
Cognitions and Mood					
Predictors	Estimates	95% CI	<i>t</i>	<i>p</i> -value	
(Intercept)	2.59	0.88 - 4.31	2.97	0.003**	
MW: S	0.17	0.03 - 0.32	2.33	0.02*	
MW: D	-0.09	-0.21 - 0.03	-1.4	0.162	
BSCS	-0.58	-0.85 - -0.31	-4.25	<.001***	
Intrusion	0.43	0.38 - 0.49	15.05	<.001***	
Avoidance	0.39	0.28 - 0.5	7.05	<.001***	
Arousal and Reactivity	0.58	0.53 - 0.62	25.84	<.001***	
Age	0.01	-0.05 - 0.06	0.23	0.816	
Sex: Female	-0.44	-0.81 - -0.07	-2.35	0.019*	
R <sup>2</sup> / R <sup>2</sup> adjusted	0.715 / 0.714				
Arousal and Reactivity					
Predictors	Estimates	95% CI	<i>t</i>	<i>p</i> -value	
(Intercept)	2.14	0.7 - 3.59	2.91	0.004**	
MW: S	0.34	0.22 - 0.46	5.48	<.001***	
MW: D	-0.1	-0.2 - 0	-1.92	0.055	
BSCS	-0.68	-0.9 - -0.46	-5.95	<.001***	
Intrusion	0.22	0.17 - 0.27	8.88	<.001***	
Avoidance	0.14	0.05 - 0.23	2.96	0.003**	
Cognitions and Mood	0.41	0.38 - 0.44	25.84	<.001***	
Age	0.01	-0.03 - 0.06	0.47	0.637	
Sex: Female	0.06	-0.25 - 0.38	0.39	0.694	
R <sup>2</sup> / R <sup>2</sup> adjusted	0.666 / 0.665				

\*\*\**p* < .001; \*\**p* < .01; \**p* < .05

Note: BSCS = Brief Self-Control Scale; MW: S = Spontaneous Mind Wandering; MW: D = Deliberate Mind Wandering