

Supplemental Table 1  
*Summary of included studies assessing psychosis*

<b>Reference</b>	<b>Population</b>	<b>Symptom(s)</b>	<b>Timeframe</b>	<b>MC assessment</b>	<b>Symptom assessment</b>	<b>Findings</b>
Gerada & Reveley, 1988 <sup>28</sup>	34-year-old woman	Psychosis	23 years	Not reported	Observation	Premenstrual psychosis
Lovestone, 1992 <sup>29</sup>	21-year-old woman	Psychosis	8 months	Self-report	Observation	Premenstrual psychosis
Harris, 1997 <sup>30</sup>	39 inpatient women with schizophrenia	Schizophrenia symptoms	2 cycles–	PAF; self-report	BPRS; self-report	Premenstrual exacerbation of affective and somatic symptoms; no effect on psychosis
Huber et al., 2004 <sup>31</sup>	27 women with psychosis; 25 women with mood disorder; 25 women in therapy; 23 healthy controls	Psychosis	4 weeks	–	BPRS; observation	70.3% of patients admitted to hospital premenstrually and menstrually
Hsiao & Liu, 2007 <sup>32</sup>	3 women ages 24-42	Psychosis	2+ years per patient	Not reported	Not reported	Premenstrual psychosis
Andreou et al., 2008 <sup>33</sup>	21-year-old woman with PCOS	Psychosis and mania	7 years	Not reported	Observation	Premenstrual psychosis and mania
Lee & Chou, 2012 <sup>34</sup>	30-year-old woman	Psychosis	19 years	Not reported	Not reported	Premenstrual psychosis
Brock et al., 2016 <sup>6</sup>	278 women	Paranoid ideology	4 weeks	Self-report	PDS	Paranoid ideology

Gleeson et al., 2016 <sup>35,a</sup>	139 women with schizophrenia or schizoaffective disorder	Schizophrenia symptoms	1 assessment	Hormone assays; self-report	PNSS	highest premenstrually 32.4% reported general cyclic effects
Jalnapurkar & Findley, 2018 <sup>36</sup>	24-year-old women with PCOS	Paranoid ideology	3 cycles	Not reported	Not reported	Premenstrual psychosis
Vengadavaradan et al., 2018 <sup>37</sup>	42-year-old woman	Psychosis	7 years	Not reported	Not reported	Psychosis present during all phases but premenstrual and menstrual
Ahern et al., 2019 <sup>38</sup>	20-year-old woman	Psychosis	7 years	Not reported	Observation	Premenstrual psychosis Positive symptoms highest premenstrually;
Ray et al., 2020 <sup>39</sup>	40 inpatient women with schizophrenia	Schizophrenia symptoms	1-2 cycles	Self-report	PNSS	negative symptoms highest menstrually

*Note:* <sup>a</sup> indicates meeting high-quality evidence criteria. MC = menstrual cycle; PAF = Premenstrual Assessment Form; BPRS = Brief Psychiatric Rating Scale; PCOS = polycystic ovarian syndrome; PDS = Persecution and Deservedness Scale; PNSS = Positive and Negative Syndrome Scale

Supplemental Table 2  
*Summary of included studies assessing bipolar disorder*

<b>Reference</b>	<b>Population</b>	<b>Symptom(s)</b>	<b>Timeframe</b>	<b>MC assessment</b>	<b>Symptom assessment</b>	<b>Findings</b>
Kukopoulos et al., 1985 <sup>40</sup>	28-year-old woman	Depression and hypomania	3 months	Hormone assays	3-point Likert scale	Premenstrual depression and hypomania
Sothorn et al., 1993 <sup>41</sup>	52-year-old woman with schizoaffective disorder	Mania	10 years	Vaginal temperature; self-report	3-point Likert scale	Premenstrual mania
Leibenluft et al., 1999 <sup>42</sup>	25 women with rapid cycling BD	Depression and mania	3+ months	Self-report	Analog scale	44% reported general cyclic effects
Becker et al., 2004 <sup>43</sup>	43-year-old woman	Depression and hypomania	6+ months	Self-report	Self-report	Depression during follicular phase; premenstrual hypomania
Karadag et al., 2004 <sup>44,a</sup>	34 women with BD; 35 healthy controls	Depression	2+ months	Hormone assays; self-report	DRSP	Greater mood variability in healthy controls
Rasgon et al., 2005 <sup>45</sup>	31 women with BD 1 or 2	Depression and mania	3 months	Self-report	YMRS; HAMD; analog scale	Most affective changes occurred during menstrual phase
Shivakumar et al., 2008 <sup>46</sup>	41 women with BD 1, 2, or NOS	Depression and mania	3 months	Self-report	NIMH-LCM	31.7% reported general cyclic effects

Aalouane et al., 2011 <sup>47</sup>	17-year-old girl	Hypomania	14 months	Not reported	Observation	Premenstrual and menstrual hypomania
Sit et al., 2011 <sup>48</sup>	11 women with BD; 10 healthy controls	Depression and mania	3 months	LH surge test kit; self-report	Mood Rating Scale	No effect of cycle
Robakis et al., 2015 <sup>49</sup>	42 women with BD taking lamotragine; 30 women with BD taking mood stabilizers other than lamotragine; 13 controls; 19 women with BD on hormonal contraceptives	Depression and mania	2-9 menstrual cycles	Self-report	YMRS; HAMD	Lamotragine: no cyclic effects; Other mood stabilizers: mood lowest during menstruation; higher baseline mood in hormonal contraceptive users
Susser & Hermann, 2017 <sup>50</sup>	24-year-old woman with BD 1	Psychosis	15 months	Not reported	Not reported	Premenstrual and menstrual psychosis

*Note:* <sup>a</sup> indicates meeting high-quality evidence criteria. MC = menstrual cycle; BD = bipolar disorder; DRSP = Daily Record of Severity of Problems; LH = luteinizing hormone; YMRS = Young Mania Rating Scale; HAMD = Hamilton Depression Rating Scale; NOS = not otherwise specified; NIMH-LCM = National Institute of Mental Health-Life Chart Method

Supplemental Table 3  
*Summary of included studies assessing depression*

<b>Reference</b>	<b>Population</b>	<b>Symptom(s)</b>	<b>Timeframe</b>	<b>MC assessment</b>	<b>Symptom assessment</b>	<b>Findings</b>
Schick, 1953 <sup>51</sup>	28-year-old woman	Depressive symptoms	2 years	Self-report	Self-report	Premenstrual depression
May, 1976 <sup>52</sup>	30 healthy women	Depressive symptoms	2 menstrual cycles	Self-report	EDS	Depressive symptoms were most common premenstrually and menstrually
Golub, 1978 <sup>53</sup>	50 healthy women	Depressive symptoms	1 assessment during either the premenstrual or intermenstrual phase	MDQ	DACL	Depressive symptoms were higher during premenstrual phase
Abramowitz et al., 1982 <sup>54</sup>	39 women with DD; 76 women with SCH	Psychiatric hospital admission	1 assessment	Self-report	Medical chart	41% of women with DD were admitted the day before and first day of menstruation
Lahmeyer et al., 1982 <sup>55</sup>	11 healthy women	Negative affect	1 menstrual cycle	Self-report	MDQ	No effect of menstrual cycle
O'Neil et al., 1984 <sup>56</sup>	162 healthy women; 138 women with emotional problems	Depressive symptoms	1 assessment	Self-report	BDI; CCDS	No effect of menstrual cycle

Shaver & Woods, 1985 <sup>57</sup>	63 healthy women	Depressive symptoms	2 menstrual cycles	Daily diary	Daily diary	Premenstrual symptom worsening Peak progesterone and rate of decrease were positively associated with depressive symptoms Depressive symptoms correlated with menstrual symptoms, not cycle phase
Halbreich et al., 1986 <sup>58</sup>	17 healthy women	Depressive symptoms	1 menstrual cycle	Hormone assays	Daily Rating Form	Depressive symptoms were higher during premenstrual than intermenstrual phase
Chen & Filsinger, 1987 <sup>59</sup>	110 healthy women	Depressive symptoms	1 assessment	Self-report	VAS	Depressive symptoms were not associated with hormone levels
Chisolm et al., 1990 <sup>60</sup>	40 healthy women	Depressive symptoms	1 assessment	Self-report	IPAT Depression Scale	History of depression was associated with more severe
Laessle et al., 1990 <sup>7,a</sup>	30 healthy women	Depressive symptoms	1 menstrual cycle	Hormone assays	Self-report	
Bancroft et al., 1994 <sup>61</sup>	90 women with menorrhagia; 83 with PMS; 50 with	Depressive symptoms; history of depression	1 assessment	Self-report	MHQ; self-report	

	dysmenorrhea; 104 control					depressive symptoms during the premenstrual and menstrual phases
Ross et al., 2001 <sup>62</sup>	109 women	Negative affect	70 days	MDQ; self-report	NEO PI-R	Negative affect was greater during premenstrual than follicular phase
Abraham et al., 2003 <sup>63</sup>	Women using monophasic ( <i>n</i> = 39), triphasic ( <i>n</i> = 55) or no OCs ( <i>n</i> = 25)	Depressive symptoms	2 menstrual cycles	Daily diary	Daily diary	Premenstrual and menstrual exacerbation; greatest exacerbations in no OC group
Alonso et al., 2004 <sup>64</sup>	57 women with fibromyalgia; 20 women with rheumatoid arthritis; 48 controls	Depressive symptoms; negative affect	2 assessments: 1 during follicular, 1 luteal phase	Self-report	PANAS; MASQ	Depressive symptoms and negative affect correlated with menstrual pain, not cycle phase
Hartlage et al., 2004 <sup>65,a</sup>	58 depressed women; 842 controls	Depressive symptoms	2 menstrual cycles	Hormone assays	DSMQ	58% of depressed women experienced premenstrual symptom worsening

Hsiao et al., 2004 <sup>66</sup>	50 women with GAD; 50 with PD; 50 with DD; 50 with SCH	Depressive symptoms	1 assessment	Self-reported premenstrual exacerbation	Self-report	No premenstrual exacerbation of depressive symptoms
Gonda et al., 2008 <sup>67</sup>	63 healthy women	Depressive symptoms	3 menstrual cycles	PRISM	ZSDS	Higher depression in late luteal phase
Harvey et al., 2009 <sup>68,a</sup>	62 healthy women	Negative mood	1 year	Basal body temperature; daily diary	Daily diary	Premenstrual and menstrual symptom exacerbation 13% had mid-cycle mood
Kiesner, 2011 <sup>69</sup>	213 women	Depressive symptoms	2 menstrual cycles	Self-report	Author-constructed scale	worsening, 61% premenstrual, 26% no effect of menstrual cycle
Walder et al., 2012 <sup>70</sup>	29 females; 9 males	Depressive symptoms	1 assessment	Self-report	BDI-II	No effect of menstrual cycle
Prasad et al., 2014 <sup>71,a</sup>	259 healthy women	Depressive symptoms	1 (n = 9) or two (n = 250) menstrual cycles	Hormone assays; fertility monitor	CES-D	No relationship between depression and hormone levels
Jacobs et al., 2015 <sup>72</sup>	11 women with remitted MDD; 13 healthy controls	Stress reactivity	3-4 months	Hormone assays; self-report	fMRI	Higher estrogen reduced stress reactivity for healthy women only
Hamstra et al., 2017 <sup>73,a</sup>	35 healthy women; 57 women taking OCs	Rumination; interpersonal sensitivity; affect lability	2 menstrual cycles	Hormone assays; self-report	LEIDS; IPSM; ALS	Affect lability was associated with the menstrual phase



Hengartner et al., 2017 <sup>74,a</sup>	87 healthy women	Negative affect	2 menstrual cycles	Self-report; hormone assays	PANAS; BDI	for both groups; No association for other measures
Lundin et al., 2017 <sup>75</sup>	84 women taking OCs; 94 women taking placebo	Depressive symptoms	3 menstrual cycles	Self-report	DRSP	No effect of menstrual cycle OC use associated with premenstrual improvement in depression Depression not related to hormone levels or MC phase; high depression associated with reduced reward sensitivity in luteal phase Menstrual cycle effects observed for emotional experience ratings and negative, not positive, facial matching
Mulligan et al., 2018 <sup>76,a</sup>	43 healthy female undergraduates	Depression; EEG	1 menstrual cycle	Hormone assays; self-report	IDAS-II	People with epilepsy reported higher depressive symptoms in the
Dan et al., 2019 <sup>77</sup>	20 healthy women; 20 healthy men	Emotional perception, experience during fMRI	2 assessments: 1 during mid-follicular, 1 late-luteal phase	Hormone assays	Emotional face matching; emotional experience ratings	
Huerta-Franco et al., 2020 <sup>78</sup>	22 women with epilepsy; 9 controls	Depressive symptoms	1 menstrual cycle	Self-report	HDRS	

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*Note:* <sup>a</sup> indicates meeting high-quality evidence criteria. MC = menstrual cycle; EDS = Elation-Depression Scale; MDQ = Menstrual Distress Questionnaire; DACL = Depression Adjective Check List; DD = depressive disorders; SCH = schizophrenia; VAS = visual analogue scale; BDI = Beck Depression Inventory; CCDS = Costello-Comrey Depression Scale; IPAT = Institute of Personality and Ability Testing; PMS = premenstrual syndrome; MHQ = Menstrual Health Questionnaire; NEO PI-R = NEO Personality Inventory-Revised; OC = oral contraceptive; PANAS = Positive and Negative Affect Scale; MASQ = Mood and Anxiety Symptoms Questionnaire-Short form; DSMQ = daily symptom and mood questionnaire; GAD = generalized anxiety disorder; PD = panic disorder; PRISM = Prospective Record of the Impact and Severity of Menstrual Symptoms; ZSDS = Zung Self-Rating Depression Scale; BDI-II = Beck Depression Inventory-II; CES-D = Center for Epidemiological Studies-Depression scale; MDD = major depressive disorder; fMRI = functional magnetic resonance imaging; LIEDS = Leiden Index of Depression Scale-Revised; IPSM = Interpersonal Sensitivity Measure; ALS = Affect Lability Scale; DRSP = Daily Record of Severity of Problems; EEG = electroencephalogram; IDAS-II = Inventory of Depression and Anxiety Symptoms; HDRS = Hamilton Depression Rating Scale

Supplemental Table 4

*Summary of studies assessing suicide and suicide attempts*

Reference	Population	Symptom(s)	Timeframe	MC assessment	Symptom assessment	Findings
Fourestié et al., 1986 <sup>79,a</sup>	108 inpatient women	Suicide attempt	1 assessment	Hormone assays; interview	Medical chart; interview	12% of attempts occurred premenstrually; 42% of attempts occurred during menstruation; no cyclic effect in women using hormonal contraceptives
Targum et al., 1991 <sup>80</sup>	51 inpatient women; 113 staff	Suicide attempt	1 assessment	Medical chart; self-report	Medical chart; self-report	47% of attempts occurred premenstrually
Baca-García et al., 1998 <sup>81</sup>	113 inpatient women	Suicide attempt	1 assessment	Self-report	Medical chart; interview	29% of attempts occurred premenstrually; 36% of attempts occurred during menstruation
Baca-García et al., 2001 <sup>82,a</sup>	90 inpatient women	Suicide attempt; psychiatric diagnosis	1 assessment	Hormone assays	Medical chart; interview	Attempts more likely to occur during menstruation for women with a history of psychiatric disorder (OR = 5.03)

Baca-García et al., 2003a <sup>83,a</sup>	120 inpatient women	Suicide attempt	1 assessment	Hormone assays; self-report	Medical chart; interview	Probability of suicide attempt occurring during menstruation = 1.72
Baca-Garcia et al., 2003b <sup>84,a</sup>	104 inpatient women	Suicide attempt	1 assessment	Hormone assays; self-report	Medical chart; interview	41% of women with long alleles, 22% of women with short alleles attempted suicide during menstruation
Cayköylü et al., 2004 <sup>85,a</sup>	52 inpatient women	Suicide attempt	1 assessment	Hormone assays; medical chart	Medical chart	Greatest number of attempts during menstruation
Lee, 2004 <sup>86</sup>	19-year-old woman with severe autism and mental retardation	Self-harm	Approximately 7 years	Not reported	Observation	Premenstrual self-harm
Sein Anand et al., 2005 <sup>87</sup>	151 inpatient women	Suicide attempt	1 assessment	Not reported	Medical chart	Greatest number of attempts during menstruation
Dogra et al., 2007 <sup>88,a</sup>	217 autopsies of suicides; 217 autopsies of other causes	Suicide	1 assessment	Autopsy	Medical chart	54% of suicides, 6.75% of other deaths occurred during menstruation
Leenaars et al., 2009 <sup>89,a</sup>	56 autopsies of suicides; 44	Suicide	1 assessment	Autopsy	Medical chart	25% of suicides, 4% of other

	autopsies of other causes					deaths occurred during menstruation
Baca-Garcia et al., 2010 <sup>90</sup>	431 inpatient women	Suicide attempt	1 assessment	Hormone assays; self-report	Medical chart; interview	26% of attempts occurred during menstruation
Mousavi et al., 2014 <sup>91,a</sup>	111 inpatient women	Suicide attempt	1 assessment	Hormone assays; self-report	Medical chart; interview	62% of attempts occurred during luteal phase
Behera et al., 2019 <sup>92,a</sup>	86 autopsies of suicides; 80 autopsies of other causes	Suicide	1 assessment	Autopsy	Medical chart	Greater number of suicides during luteal (OR 3.7) and/or menstrual (OR 4.7) phases compared to follicular
Papadopoulou et al., 2019 <sup>93,a</sup>	70 inpatient women	Suicide attempt	1 assessment	Hormone assays; medical chart	Medical chart	59% of attempts occurred premenstrually

*Note:* <sup>a</sup> indicates meeting high-quality evidence criteria. MC = menstrual cycle; OR = odds ratio

Supplemental Table 5a  
*Summary of included studies assessing anxiety and stress*

Reference	Population	Symptom(s)	Timeframe	MC assessment	Symptom assessment	Findings
Gottschalk et al., 1962 <sup>94</sup>	5 women	Anxiety	1 – 3 menstrual cycles	BBT	Daily audio recordings	Three women had less anxiety in luteal phase
Moos et al., 1962 <sup>95</sup>	15 women	Anxiety	2 menstrual cycles	Self-report	Self-report	Anxiety highest at menstrual and premenstrual phases
Ivey & Hardwick, 1968 <sup>96</sup>	26 women	Anxiety	2 menstrual cycles	Self-report; BBT	Themes identified during audio interview	Anxiety higher during premenstrual phase
Paige, 1971 <sup>97</sup>	38 women not taking OCs; 64 women taking OCs	Negative affect	1 menstrual cycle	Self-report	Audio recordings of verbal samples	Anxiety is highest in menstrual and premenstrual phases
Marinari et al., 1976 <sup>98</sup>	30 women using OCs; 30 women not using OCs	Stress responses	1 – 2 weeks	Self-report	Cortisol	Women not taking OCs showed higher stress premenstrually; no cycle effect for women taking OCs
Lahmeyer et al., 1982 <sup>55</sup>	11 women	Anxiety	1 menstrual cycle	Self-report; BBT; urinary pregnanediol	STAI	No effect of cycle phase

O'Neil et al., 1984 <sup>56</sup>	162 healthy women (36 using OC); 138 women (39 using OCs) who attended a psychiatric clinic	Anxiety	1 assessment	Self-report	C-CAS	No effect of cycle phase in either group
Veith et al., 1984 <sup>99</sup>	9 women not taking OCs; 7 women taking OCs	Anxiety	1 menstrual cycle	Self-report; BBT	STAI	No effect of cycle phase
Van den Akker & Steptoe, 1985 <sup>100,a</sup>	100 women	Anxiety and menstrual symptoms	35 days	Self-report; BBT	STAI; MDQ	No effect of cycle phase
Morse et al., 1988 <sup>101,a</sup>	32 healthy women; 75 women with PMS	Anxiety	2 menstrual cycles	Self-report; hormone assays	STAI	No effect of cycle phase
Chisholm et al., 1990 <sup>60</sup>	40 healthy women	Anxiety	1 assessment	Self-report	STAI	Anxiety was higher during premenstrual than intermenstrual phase
Gomez-Amor et al., 1990 <sup>102,a</sup>	62 women	Anxiety	1 menstrual cycle	Self-report; BBT; hormone assays	STAI; EDA	Higher EDA in ovulatory; no cycle changes in anxiety
Lane & Francis, 2003 <sup>103</sup>	69 women	Anxiety	1 assessment*	Self-report	DASS	No effect of cycle phase

Davydov et al., 2004 <sup>104,a</sup>	203 women nurses	Anxiety	1 menstrual cycle	Self-report; LH surge test kit; hormone assays	Self-report rated intensity of moods	Women with high anxiety had more anxiety during luteal phase if working on that day
Gonda et al., 2008 <sup>67</sup>	63 healthy women	Anxiety	3 menstrual cycles	PRISM	STAI; SCL51	Higher anxiety in late luteal phase Anxious women showed higher cortisol in follicular phase; no effect of cycle phase in self-report of anxiety
Hlavacova et al., 2008 <sup>105</sup>	20 anxious women; 20 non-anxious women	Stress responses	1 assessment	Self-report	Cortisol; 8SQ	No effect of cycle phase Luteal women had strongest responses to stress; follicular women showed blunted noradrenaline responses. 13% had mid-cycle worsening, 61% premenstrual, 26% no effect of menstrual cycle
Harvey et al., 2009 <sup>68,a</sup>	62 healthy women runners	Anxiety	1 year	Self-report; BBT; hormone assays	Menstrual Cycle Diary©	
Childs et al., 2010 <sup>106</sup>	52 women; 28 men	Anxiety	1 menstrual cycle	Self-report	POMS; Cortisol; HR	
Kiesner, 2011 <sup>69</sup>	213 women	Anxiety symptoms	2 menstrual cycles	Self-report	Author-constructed scale	



Lustyk et al., 2010 <sup>107,a</sup>	78 women	Anxiety; stress responses	1 menstrual cycle	Self-report; LH surge test kit	STAI; cortisol; HR	Higher anxiety in follicular phase; higher cortisol and HR in luteal phase
Lustyk et al., 2012 <sup>108,a</sup>	87 women	Anxiety; stress responses	1 menstrual cycle	Self-report; LH surge test kit	STAI; HR; BP	Higher HR and BP in luteal phase; no effect of cycle phase on state anxiety
Armbruster et al., 2014 <sup>109</sup>	111 women; 107 men	Anxiety	1 menstrual cycle	Self-report	ASR	Larger ASR magnitudes at ovulation and late luteal compared to men baseline
Albert et al., 2015 <sup>110</sup>	28 women	Anxiety and stress	1 assessment	Self-report; hormone assays	STAI; SAC; fMRI	No menstrual cycle phase effect on STAI or SAC; ovulation associated with less stress reactivity
Mahon et al., 2015 <sup>111,a</sup>	49 women	Perceived control of over anxiety	1 menstrual cycle	Self-report; LH surge test kit; hormone assays	ACQ	No effect of cycle phase
Manikandan et al., 2016 <sup>112,a</sup>	37 women	Perceived control of over anxiety	1 menstrual cycle	Self-report; LH surge test kit	ACQ; DERS	Women with better emotion regulation showed greater increase in control over

Özer Kaya & Toprak Çelenay, 2016 <sup>113</sup>	13 physically active women	Anxiety	1 menstrual cycle	Self-report	STAI	anxiety in luteal phase No effect of cycle phase
Welz et al., 2016 <sup>114,a</sup>	59 women	BAI	1 cycle	Self-report; ovulation test	Self-report	Women with high anxiety had increased irritability in late luteal and menstrual phases
Villada et al., 2017 <sup>115,a</sup>	31 women	Anxiety; stress responses	1 assessment	Self-report; BBT	STAI; Cortisol; HR	Highest cortisol in luteal phase; no effect of cycle phase on other measures
	<u>Study 1</u> : 100 Polish women	<u>Study 1</u> : anxiety	<u>Study 1</u> : 1 menstrual cycle	<u>Study 1</u> : Self-report; LH surge test kit; hormone assays	<u>Study 1</u> : Self-report	<u>Study 1</u> : No effect of cycle phase; progesterone positively correlated with anxiety
Reynolds et al., 2018 <sup>116,a</sup>	<u>Study 2</u> : 61 American women	<u>Study 2</u> : attachment anxiety	<u>Study 2</u> : 1 menstrual cycle	<u>Study 2</u> : Self-report; LH surge test kit; hormone assays	<u>Study 2</u> : ECR	<u>Study 2</u> : No effect of cycle phase; progesterone positively correlated with anxiety

Hahn et al., 2020 <sup>117,a</sup>	370 women	Anxious jealousy	2 – 15 weeks	Self-report; hormone assays	Relationship jealousy questionnaire	No relationship to hormonal levels across the menstrual cycle
Shayani et al., 2020 <sup>118,a</sup>	38 women	Health anxiety	1 menstrual cycle	Self-report; LH surge test kit; hormone assays	HAI – short version	Women with high health anxiety have greater perceived stress in luteal phase
Prado et al., 2021 <sup>119</sup>	14 physically active women	Anxiety	2 – 3 cycles	Self-report; BBT	BAI	Higher anxiety in luteal phase

*Note:* <sup>a</sup> indicates meeting high-quality evidence criteria. MC = menstrual cycle; BBT = basal body temperature; OC = oral contraceptive; STAI = State-Trait Anxiety Inventory; MDQ = Menstrual Distress Questionnaire; C-CAS = Costello-Comrey Anxiety Scale; PMS = premenstrual syndrome; EDA = electrodermal activity; DASS = Depression Anxiety Stress Scales; LH = luteinizing hormone; PRISM = Prospective Record of the Impact and Severity of Menstrual Symptoms; SCL51 = Symptom Distress Checklist-51; 8SQ = Eight State Questionnaire; POMS = Profile of Mood States; HR = heart rate; BP = blood pressure; ASR = acoustic startle response; ACQ = Anxiety Control Questionnaire; DERS = Difficulties in Emotion Regulation Scale; BAI = Beck Anxiety Inventory; ECR = Experiences in Close Relationships questionnaire; SAC = Stress and Arousal Checklist; fMRI = functional magnetic resonance imaging; HAI = Health Anxiety Inventory

\*participants reported symptoms retrospectively

Supplemental Table 5b

*Summary of included studies assessing generalized anxiety disorder*

<b>Reference</b>	<b>Population</b>	<b>Symptom(s)</b>	<b>Timeframe</b>	<b>MC assessment</b>	<b>Symptom assessment</b>	<b>Findings</b>
McLeod et al., 1993 <sup>120</sup>	41 women with GAD; 21 women with GAD+PMS; 19 healthy controls	Anxiety	3 menstrual cycles	Self-report	HSCL-90	Women with GAD + PMS reported higher anxiety premenstrually Only mental fatigue was higher in mid-luteal than early follicular for non-anxious women
Li et al., 2020 <sup>121</sup>	18 women with GAD; 20 non-anxious women	Physical and mental fatigue	1 menstrual cycle	Self-report; LH surge test kit; hormone assays	FES	

*Note:* MC = menstrual cycle; GAD = generalized anxiety disorder; PMS = premenstrual syndrome; HSCL-90 = Hopkins Symptom Checklist – 90; LH = luteinizing hormone; FES = Fatigue and Energy Scale

Supplemental Table 5c

*Summary of included studies assessing social anxiety disorder*

Reference	Population	Symptom(s)	Timeframe	MC assessment	Symptom assessment	Findings
Van Veen et al., 2009 <sup>122</sup>	64 women with generalized SAD	Social anxiety	1 assessment	Self-report*	Social anxiety and avoidance rating	Subgroup of women reported premenstrual increase in social anxiety
	<u>Study 1</u> : 22 healthy women; 18 women taking OC	<u>Study 1</u> : social sensitivity	<u>Study 1</u> : 1 assessment	<u>Study 1</u> : Self- report; hormone actuarial estimates	<u>Study 1</u> : Facial expression identification	<u>Study 1</u> : Luteal phase associated with more accurate facial expression identification
Maner & Miller, 2014 <sup>123,a</sup>	<u>Study 2</u> : 44 healthy women; 45 women taking OCs	<u>Study 2</u> : Attention to social stimuli	<u>Study 2</u> : 1 assessment	<u>Study 2</u> : Self- report; hormone assays	<u>Study 2</u> : Dot probe task	<u>Study 2</u> : Luteal phase associated with heightened attention to social stimuli
	<u>Study 1</u> : 78 women	<u>Study 1</u> : interpersonal sensitivity	<u>Study 1</u> : 1 assessment	<u>Study 1</u> : Self- report; hormone assays	<u>Study 1</u> : BIS/BAS; SAS	<u>Study 1</u> : No menstrual cycle effect
Wang et al., 2021 <sup>124,a</sup>	<u>Study 2</u> : 30 women	<u>Study 2</u> : interpersonal anxiety	<u>Study 2</u> : 1 menstrual cycle	<u>Study 2</u> : Self- report; LH surge test kit	<u>Study 2</u> : SABS; SVO	<u>Study 2</u> : Mid- luteal phase associated with higher interpersonal anxiety

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*Note.* <sup>a</sup> indicates meeting high-quality evidence criteria. MC = menstrual cycle; SAD = social anxiety disorder; OC = oral contraceptive; BIS/BAS = Behavioral Inhibition Scale/Behavioral Activation Scale; SAS = Self-Awareness Scale; LH = luteinizing hormone; SABS = Self-Absorption Scale; SVO = Social Value Orientation

\*participants retrospectively reported symptoms for different phases of the menstrual cycle

Supplemental Table 5d  
*Summary of included studies assessing panic disorder*

Reference	Population	Symptom(s)	Timeframe	MC assessment	Symptom assessment	Findings
Cameron et al., 1988 <sup>125</sup>	10 women with panic attacks	Number of panic attacks; panic attack severity	At least one menstrual cycle	Self-report	Self-report	Retrospective premenstrual worsening. No menstrual cycle effect from prospective ratings
Stein et al., 1989 <sup>126</sup>	20 women with PD; 20 healthy control women; 20 women with PMS	Anxiety	At least 2 menstrual cycles	Self-report	VAS anxiety ratings	Women with PMS had higher premenstrual anxiety
Cook et al., 1990 <sup>127</sup>	19 women with PD	Anxiety	60 days	Self-report	Daily diary of anxiety ratings	Retrospective premenstrual worsening. No menstrual cycle effect from prospective ratings
Kaspi et al., 1994 <sup>128</sup>	<u>Study 1</u> : 94 women with PD (retrospective)	<u>Study 1</u> : panic symptoms	<u>Study 1</u> : 1 assessment	<u>Study 1</u> : Self-report	<u>Study 1</u> : Self-report	<u>Study 1</u> : 41% retrospectively reported premenstrual worsening of panic
		<u>Study 2</u> : panic symptoms	<u>Study 2</u> : 2 menstrual cycles	<u>Study 2</u> : Self-report	<u>Study 2</u> : Self-report	<u>Study 2</u> : Premenstrual

	<u>Study 2</u> : 24 women with PD (prospective)					panic frequency and negative mood greater than postmenstrual Higher anxiety in early follicular for women with PD Women with PD had higher SCRs to anxiety scenes in premenstrual phase
Perna et al., 1995 <sup>129</sup>	10 women with PD; 7 healthy control women	Anxiety in response to CO <sub>2</sub> inhalation	1 menstrual cycle	Self-report; hormone assays	VAS anxiety ratings	
Sigmon et al., 1996 <sup>130</sup>	86 women with either high or low AS	Anxiety; arousal	1 menstrual cycle	Self-report	SCR; STAI	
Sigmon, Dorhofer, Rohan, & Boulard, 2000 <sup>131</sup>	56 low AS women; 57 high AS women	Psycho-physiological reactivity	1 menstrual cycle	Self-report	SCR	No menstrual cycle effects
Sigmon, Dorhofer, Rohan, Hotovy et al., 2000 <sup>132</sup>	16 women with PD; 18 healthy control women	Psycho-physiological reactivity	2 menstrual cycles	Self-report	SCR	Women with PD had higher SCRs to anxiety scenes in premenstrual phase
Dorhofer & Sigmon, 2002 <sup>133</sup>	33 women with asthma; 17 women with asthma + PD; 18 women with PD; 29 healthy control women	Anxiety and lung function reactivity to stress	1 menstrual cycle	Self-report	ASI; STAI; SCR; peak air flow	No menstrual cycle effect



Nilni et al., 2012 <sup>134,a</sup>	55 healthy women	Panic symptoms; anxiety in response to CO <sub>2</sub> inhalation	At least 1 menstrual cycle	Self-report; LH surge test kit; hormone assays	DSQ; ASI	Higher cognitive panic symptoms premenstrually only for women with high AS; no menstrual cycle effect for anxiety
Nilni et al., 2013 <sup>135,a</sup>	55 healthy women	Menstrual- related symptoms	At least 1 menstrual cycle	Self-report; LH surge test kit; hormone assays	DSRP; MDQ	No menstrual cycle effects

*Note:* <sup>a</sup> indicates meeting high-quality evidence criteria. MC = menstrual cycle; PD = panic disorder; CO<sub>2</sub> = carbon dioxide; VAS = visual analogue scale; PMS = premenstrual syndrome; AS = anxiety sensitivity; SCR = skin conductance response; STAI = State-Trait Anxiety Inventory; ASI = Anxiety Sensitivity Index; LH = luteinizing hormone; DSQ = Diagnostic Sensations Questionnaire; DSRP = Daily Record Severity of Problems; MDQ = Menstrual Distress Questionnaire.

Supplemental Table 6a

*Summary of included studies assessing obsessive-compulsive disorder*

Reference	Population	Symptom(s)	Timeframe	MC assessment	Symptom assessment	Findings
Williams & Koran, 1997 <sup>136</sup>	57 women with OCD	Estimated pre-menstrual worsening of OCD symptoms	Retrospective	Self-report	Self-report	42% (n = 24) described premenstrual worsening
Labad et al., 2005 <sup>137</sup>	46 women with OCD*	Changes in OCD symptoms	1 day	Self-report	Self-report via clinical interview	20% (n = 9) reported premenstrual worsening of OCD symptoms
Vulink et al., 2006 <sup>138</sup>	101 women (82 pre-menopausal**)	OCD symptoms	1 day	Self-report	Y-BOCS; Self-report	49% (n = 49) reported premenstrual worsening of OCD symptoms
Mulligan et al., 2019 <sup>139,a</sup>	40 women	Checking symptoms	2 assessments within 1 cycle	Hormonal assays; self-report	Self-report	No phase differences in checking

*Note:* <sup>a</sup> indicates meeting high-quality evidence criteria. MC = menstrual cycle; OCD = obsessive-compulsive disorder; Y-BOCS = Yale-Brown Obsessive-Compulsive Scale

\*3 women were using oral contraceptives at the time of assessment

\*\*43 women were using oral contraceptives at the time of assessment

Supplemental Table 6b  
*Summary of included studies assessing trichotillomania*

<b>Reference</b>	<b>Population</b>	<b>Symptom(s)</b>	<b>Timeframe</b>	<b>MC assessment</b>	<b>Symptom assessment</b>	<b>Findings</b>
Keuthen et al., 1997 <sup>140</sup>	59 women with trichotillomania	Hairpulling frequency, urge, and ability to resist	Retrospective	Self-report	Self-report	Greater frequency and urges, less ability to resist premenstrually

*Note:* MC = menstrual cycle

Supplemental Table 7

Summary of included studies assessing post-traumatic stress disorder (PTSD)

Reference	Population	Symptom(s)	Timeframe	MC assessment	Symptom assessment	Findings
Bryant et al., 2011 <sup>141</sup>	147 trauma-exposed women	Flashbacks	1 assessment	Self-report	CAPS; self-report	Luteal phase at time of trauma or assessment associated with more flashbacks
Ferree et al., 2011 <sup>142,a</sup>	40 women	Intrusive memories	48 hours	Self-report; hormone assays	SIRs	Luteal phase associated with more SIRs
Glover et al., 2013 <sup>2</sup>	28 healthy women; 44 trauma-exposed women*	Fear discrimination and inhibition	1 assessment	Self-report; estradiol assays	Fear-potentiated startle	Follicular phase/lower estrogen associated with impaired fear inhibition
Soni et al., 2013 <sup>143,a</sup>	41 women	Intrusive memories	72 hours	Self-report; hormone assays	Daily diary	More intrusive memories in early luteal phase
Wegerer et al., 2014 <sup>144,a</sup>	37 women	Intrusive memories	1 assessment	Self-report; hormone assays	IMQ	Low estradiol associated with more intrusive memories
Nillni et al., 2015 <sup>145</sup>	Trauma-exposed women with ( $n = 22$ ) and without ( $n = 29$ ) PTSD	Depression, anxiety, interpersonal sensitivity; hostility	1 menstrual cycle	Self-report; LH surge test kit; hormone assays	SCL 90-R	Depression, phobic anxiety higher in early follicular phase

Pineles, Blumenthal et al., 2016 <sup>146</sup>	Trauma-exposed women with ( $n = 22$ ) and without ( $n = 25$ ) PTSD	Degree of PPI	1 menstrual cycle	Self-report; LH surge test kit; hormone assays	Startle reactivity	No effect of menstrual cycle phase
Pineles, Nillni, et al., 2016 <sup>147</sup>	Trauma-exposed women with ( $n = 16$ ) and without ( $n = 16$ ) PTSD	Fear extinction	1 menstrual cycle	Self-report; LH surge test kit; hormone assays	Skin conductance response	Impaired fear extinction retention in midluteal for PTSD group
Pineles et al., 2018 <sup>148</sup>	Trauma-exposed women with ( $n = 15$ ) and without ( $n = 19$ ) PTSD	PTSD biomarkers	1 menstrual cycle	Self-report; LH surge test kit; hormone assays	ALLO synthesis	ALLO to 5 $\alpha$ -DHP ratio higher in midluteal phase
Nillni et al., 2020 <sup>149</sup>	Trauma-exposed women with ( $n = 24$ ) and without ( $n = 24$ ) PTSD	Anxiety sensitivity	1 menstrual cycle	Self-report; LH surge test kit; hormone assays	ASI	No effect of menstrual cycle phase
Pineles et al., 2020 <sup>150</sup>	Trauma-exposed women with ( $n = 9$ ) and without ( $n = 9$ ) PTSD	PTSD biomarkers	1 menstrual cycle	Self-report; LH surge test kit; hormone assays	ALLO synthesis and skin conductance response	Positive relationship between ALLO and fear extinction in midluteal for PTSD group
Arditte Hall et al., 2021 <sup>151</sup>	12 women with PTSD; 18 trauma-exposed women without PTSD	Stress	1 menstrual cycle	Self-report; LH surge test kit; hormone assays	GABA levels	No effect of menstrual phase in either group

*Note:* <sup>a</sup> indicates meeting high-quality evidence criteria. PTSD = post-traumatic stress disorder; MC = menstrual cycle; CAPS = clinician administered PTSD scale; SIRs = spontaneous intrusive recollections; IMQ = intrusion memory questionnaire; LH = luteinizing hormone; SCL 90-R = Symptom Checklist 90-Revised; PPI = pre-pulse inhibition; ALLO = allopregnanolone and pregnanolone; 5 $\alpha$ -DHP = 5 $\alpha$  dihydroprogesterone; ASI = anxiety sensitivity index; GABA = gamma-aminobutyric acid

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\* included women from an urban population that may have been using hormonal birth control or in menopause

Supplemental Table 8  
*Summary of included studies assessing eating disorders*

<b>Reference</b>	<b>Population</b>	<b>Symptom(s)</b>	<b>Timeframe</b>	<b>MC assessment</b>	<b>Symptom assessment</b>	<b>Findings</b>
Leon et al., 1986 <sup>152</sup>	45 women with BN	Binge purge episodes	9 weeks	Self-report	EPHQ; self-report	No effect of cycle
Gladis & Walsh, 1987 <sup>153</sup>	15 women with BN	Binge eating	2-4 cycles	Self-report	Self-report	Premenstrual and menstrual exacerbation of bingeing
Lester et al., 2003 <sup>154</sup>	8 women with BN; 8 healthy controls	Binge purge episodes	5 weeks	Hormone assays; self-report	BULIT-R; self-report	Premenstrual exacerbation of bingeing; no effect on purging
Edler et al., 2007 <sup>155</sup>	9 women with BN; 8 healthy controls	Binge purge episodes	5 weeks	Hormone assays; self-report	BULIT-R	Bingeing increased as progesterone increased and estradiol decreased
Gonda et al., 2008 <sup>156</sup>	63 women	Eating attitudes	3 cycles	Self-report	Eating Attitudes Test	No effect of cycle
Klump et al., 2008 <sup>157</sup>	24 women	Binge eating	35 days	Hormone assays; self-report	DEBQ	Premenstrual exacerbation of bingeing
McVay et al., 2011 <sup>158</sup>	81 women taking OCs; 67 controls	Eating behaviors	1 assessment	PAF; self-report	MAEDS; self-report	Premenstrual and menstrual exacerbation of food cravings

Schoofs et al., 2011 <sup>159</sup>	42 women with BD 1 or 2; 15 also had BED	Binge eating	3 months	Self-report	Self-report	and amount eaten Premenstrual and menstrual exacerbation of binge eating
Klump et al., 2013 <sup>160,a</sup>	196 female twins	Emotional eating	45 days	Hormone assays; self-report	DEBQ	Emotional eating increased as progesterone and estradiol increased Binge eating increased midluteally and premenstrually for women with history of binge eating, otherwise, binge eating increased midluteally
Klump et al., 2014 <sup>161</sup>	445 female twins*, 28 with history of binge eating	Binge eating	45 days	Hormone assays	DEBQ; self-report	Premenstrual and menstrual exacerbation of weight preoccupation due to increased emotional eating Progesterone moderates relationship between
Hildebrandt et al., 2015 <sup>162,a</sup>	352 female twins	Emotional eating; weight preoccupation	45 days	Hormone assays; self-report	MEBS	
Baker et al., 2019 <sup>163</sup>	8 perimenopausal women	Eating behaviors; body dissatisfaction	1 cycle or 40 days, whichever came first	Hormone assays	EPSI	



estradiol and  
binge eating,  
body  
dissatisfaction  
No effect of  
hormone levels

Fowler et al., 2019 <sup>164,a</sup>	445 female twins	Emotional eating	45 days	Hormone assays	DEBQ; PANAS
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*Note:* <sup>a</sup> indicates meeting high-quality evidence criteria. MC = menstrual cycle; BN = bulimia nervosa; EPHQ = Eating Patterns and Health Questionnaire; BULIT-R = Bulimia Test-Revised; DEB-Q = Dutch Eating Behavior Questionnaire; OC = oral contraceptive; PAF = Premenstrual Assessment Form; MEADS = Multiaxial Assessment of Eating Disorder Symptoms; BD = bipolar disorder; BED = binge eating disorder; MEBS = Minnesota Eating Behavior Survey; EPSI = Eating Pathology Symptom Inventory; PANAS = Positive and Negative Affect Scale

\* 196 of these participants also participated in Klump et al., 2013

Supplemental Table 9

*Summary of included studies assessing borderline personality disorder*

Reference	Population	Symptom(s)	Timeframe	MC assessment	Symptom assessment	Findings
DeSoto et al., 2003 <sup>165,a</sup>	<u>Study 1</u> : 226 women	BPD symptoms	1 day	Self-report	PAI-BOR	More BPD symptoms associated with OC use and rising levels of estrogen
	<u>Study 2</u> : 52 women	BPD symptoms	4 weeks	Self-report; Hormone assays	PAI-BOR	Variability in estradiol related to BPD symptoms (not absolute levels)
	<u>Study 3</u> : 17 women starting OC; 29 women not taking OC	BPD symptoms	8 weeks total (4 before OC, 4 after)	Self-report	PAI-BOR	Higher baseline BPD symptoms associated with increase after taking OC Only women with high baseline BPD features showed symptom increase when estrogen and progesterone levels changed
Eisenlohr-Moul et al., 2015 <sup>166,a</sup>	40 women	BPD symptoms	5 weeks	Hormone assays; self-report	PAI-BOR; BSL-23; MSI-BPD	Higher baseline BPD symptoms associated with increase after taking OC Only women with high baseline BPD features showed symptom increase when estrogen and progesterone levels changed

Eisenlohr-Moul et al., 2018 <sup>167</sup>	15 women with BPD	Stress reactivity	35 days	Self-report; ovulation test; hormone assays	DRSP; C-PASS; self-report	Symptoms worse in mid-luteal; symptoms peaked in perimenstrual phase Lowest anger/aggression at ovulation;
Peters et al., 2020 <sup>168</sup>	15 women with BPD	Anger; aggression	35 days	Self-report; ovulation test; hormone assays	DRSP; STAEI-2; R-PAQ	highest anger/aggression in perimenstrual phase

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*Note:* <sup>a</sup> indicates meeting high-quality evidence criteria. MC = menstrual cycle; BPD = borderline personality disorder; PAI-BOR = Personality Assessment Inventory-Borderline Features Scales; OC = oral contraceptive; DRSP = Daily Record of Severity of Problems; C-PASS = Carolina Premenstrual Assessment Scoring System; STAEI-2 = State-Trait Anger Expression Inventory – 2; R-PAQ = Reactive-Proactive Anger Questionnaire

Supplemental Table 10a  
*Summary of included studies assessing alcohol use*

Reference	Population	Symptom(s)	Timeframe	MC assessment	Symptom assessment	Findings
Griffin et al., 1987 <sup>169</sup>	30 women	Daily alcohol use	3 cycles	MMDQ; self-report	Self-report	No effect of cycle; increased drinking in response to menstrual distress
Charette et al., 1990 <sup>170</sup>	30 women at high risk, 52 at low risk for alcoholism	Number, type of alcoholic drink	9 weeks	MMDQ; self-report	Self-report	No effect of cycle
DiMatteo et al., 2012 <sup>171</sup>	56 unrestrained, 51 restrained eaters, all who drank at least 7 drinks per week	Daily alcohol use	1 cycle	Self-report	Daily Rating Form	Restrained compared to unrestrained eaters drank less during follicular phase
Martel et al., 2017 <sup>172</sup>	22 women	Daily alcohol use; binge drinking	35 days	Hormone assays; self-report	Self-report	Drinking and binge drinking highest during ovulation and premenstrually
Joyce et al., 2018 <sup>173,a</sup>	94 women	Daily alcohol use; motives for drinking	1 cycle	Hormone assays; self-report	DMQR; self-report	Premenstrual and menstrual drinking associated with negative affect;

Hayaki et al., 2020 <sup>174</sup>	168 women with AUD	Daily alcohol use; alcohol cravings	1+ cycles	MMDQ; self- report	Self-report	drinking during ovulation associated with positive affect Greater drinking during menstruation compared to follicular phase; effect of cycle on cravings was moderated by emotional distress Drinking associated with decreased
Holzhauser et al., 2020 <sup>175,a</sup>	35 women	Daily alcohol use; mood	2 assessments, 2 weeks apart	Hormone assays	Self-report	progesterone + negative mood and increased progesterone + positive mood

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*Note:* <sup>a</sup> indicates meeting high-quality evidence criteria. MC = menstrual cycle; MMDQ = Moos Menstrual Distress Questionnaire; DMQR = Drinking Motives Questionnaire-Revised; AUD = alcohol use disorder

Supplemental Table 10b  
*Summary of included studies assessing smoking*

Reference	Population	Symptom(s)	Timeframe	MC assessment	Symptom assessment	Findings
Marks et al., 1994 <sup>176</sup>	9 female smokers with LLPDD	Number of cigarettes smoked, alcoholic drinks consumed	2 cycles	Self-report	Daily Rating Form; self-report	Smoking and alcohol use greatest during menstruation
DeBon et al., 1995 <sup>177</sup>	15 female smokers, 15 female nonsmokers	Number of cigarettes smoked; withdrawal symptoms	2 cycles	Self-report	SWSC; CO level; self-report	Withdrawal, smoking highest during menstruation and luteal phase Greater withdrawal symptoms following quit attempts during luteal than follicular phase
Perkins et al., 2000 <sup>178</sup>	78 women attempting to quit smoking	Withdrawal symptoms	3 weeks	PAF; self-report	Self-report	Smoking highest during luteal phase; no effects of cycle on withdrawal
Snively et al., 2000 <sup>179</sup>	14 female smokers	Number of cigarettes smoked; withdrawal symptoms during ad lib smoking or abstinence	4 assessments across 2 cycles	BBT; Hormone assays; self-report	SJTWQ; CO level; self-report	

Carpenter et al., 2008 <sup>180,a</sup>	44 women attempting to quit smoking	Smoking abstinence	6 weeks	LH surge test kit; self-report	Self-report; CO level	Greater abstinence following quit attempts during follicular than luteal phase Greater cravings during follicular than luteal phase
Gray et al., 2010 <sup>181,a</sup>	37 female smokers	Cigarette cravings; physiological withdrawal symptoms	4 assessments across each phase of cycle	LH surge test kit; self-report	QSUB; skin conductance; heart rate	Greater cravings during follicular than luteal phase; no effect of cycle on physiological withdrawal symptoms Significantly higher rates of maintained abstinence when quitting during luteal phase
Mazure et al., 2011 <sup>182</sup>	33 female smokers taking bupropion	Smoking abstinence	6 weeks, every other week	Self-report	TLFB; CO level	Lower ratio of progesterone to estradiol associated with greater smoking Smoking highest during luteal phase
Schiller et al., 2012 <sup>183,a</sup>	98 treatment-seeking female smokers	Number of cigarettes smoked	2 assessments, 2 weeks apart	Hormone assays	Observation; CO level	Smoking highest during luteal phase; cravings highest during luteal phase and menstruation
Sakai & Ohashi, 2013 <sup>184</sup>	29 female smokers	Number of cigarettes smoked; craving	1 cycle	BBT; LH surge test kit; self-report	Self-report	

DeVito et al., 2014 <sup>185,a</sup>	45 female, 115 male smokers	Withdrawal, cravings, and subjective effects in response to IV nicotine or saline	1 assessment during either luteal or follicular phase	Hormone assays; self-report	MNWS; DEQ; QSUB	Attenuated responses to nicotine in luteal compared to follicular phase
Goletiani et al., 2015 <sup>186</sup>	17 female smokers	Cigarette cravings and subjective effects	2 assessments across luteal and follicular phases	Hormone assays; self-report	Self-report	Attenuated responses to nicotine in luteal phase in women with high levels of progesterone No effect of cycle; higher cravings for women in luteal phase compared to men
Saladin et al., 2015 <sup>187,a</sup>	37 female, 53 male smokers	Cigarette cravings after listening to stressful or neutral narratives Cigarette cravings following 24 hours of abstinence	1 assessment during luteal or follicular phase	LH surge test kit; self-report	QSUB	Greater cravings during follicular than luteal phase
Carlson et al., 2017 <sup>188,a</sup>	125 female smokers	Cigarette cravings; withdrawal symptoms	2 assessments across follicular and luteal phases	Hormone assays; self-report	CO level; SSS	Higher progesterone associated with reduced cravings; no effect of cycle on withdrawal symptoms
Pang et al., 2018 <sup>189,a</sup>	80 female smokers receiving either nicotine patch or placebo	Cigarette cravings; withdrawal symptoms	3 assessments across 1 cycle	Hormone assays	QSUB; MNWS	Higher progesterone associated with reduced cravings; no effect of cycle on withdrawal symptoms



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*Note:* <sup>a</sup> indicates meeting high-quality evidence criteria. MC = menstrual cycle; LLPDD = late luteal phase dysphoric disorder; SWSC = Smoking-Withdrawal Symptom Checklist; CO = carbon monoxide; PAF = Premenstrual Assessment Form; BBT = basal body temperature; SJTWQ = Shiffman-Jarvick Tobacco Withdrawal Questionnaire; LH = luteinizing hormone; QSUB = Questionnaire of Smoking Urges-Brief; TLFB = Timeline Followback; IV = intravenous; BBT = basal body temperature; MNWS = Minnesota Nicotine Withdrawal Scale; DEQ = Drug Effects Questionnaire; SSS = Subjective State Scale

Supplemental Table 10c  
*Summary of included studies assessing cocaine use*

<b>Reference</b>	<b>Population</b>	<b>Symptom(s)</b>	<b>Timeframe</b>	<b>MC assessment</b>	<b>Symptom assessment</b>	<b>Findings</b>
Sofuoglu et al., 1999 <sup>190</sup>	21 female, 23 male smoked cocaine users	Subjective effects of cocaine	1 assessment	Hormone assay	CEQ	Attenuated responses in luteal compared to follicular phase
Evans et al., 2002 <sup>191</sup>	11 female smoked cocaine users	Desire for cocaine; subjective effects of cocaine	2 assessments: follicular, midluteal	Hormone assay; self-report	Subjective effects questionnaire	Stronger desire for cocaine and less subjective effects during luteal compared to follicular phase
Evans & Foltin, 2006 <sup>192</sup>	11 female, 10 male smoked cocaine users	Desire for cocaine; subjective effects of cocaine	3 assessments: follicular, luteal, follicular + progesterone	Hormone assay; self-report	Subjective effects questionnaire	No effect of cycle on desire for cocaine; attenuated subjective effects during follicular phase with progesterone supplement
Collins et al., 2007 <sup>193</sup>	8 female cocaine users	Subjective effects of cocaine	2 assessments: follicular, luteal	Hormone assay	Subjective effects questionnaire	No effect of cycle
Reed et al., 2011 <sup>194</sup>	10 female smoked cocaine users	Self-administration; subjective	3 assessments: follicular, luteal,	Hormone assay; self-report	Observation; subjective	No effect of cycle

		effects of cocaine	follicular + progesterone		effects questionnaire	
Milivojevic et al., 2016 <sup>195</sup>	17 female, 29 male cocaine users	Cocaine cravings in response to stress	3 assessments across follicular phase	Hormone assay; self-report	CCQ	Higher levels of allopregnanolone were associated with lower cocaine cravings following stressor

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*Note:* MC = menstrual cycle; CEQ = Craving Effects Questionnaire ; CCQ = Cocaine Craving Questionnaire-Brief