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Relational uncertainty, interdependence and psychological distress during COVID-19: A longitudinal study

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Abstract

Drawing on the relational turbulence theory, this study explored the associations of self, partner and relationship uncertainty, and partner interference and facilitation with psychological distress symptoms during the COVID-19 stay-at-home orders. A longitudinal study of 313 individuals was conducted in Israel at three time points, spanning from the first lockdown (April 2020) and through the alleviation of the severe restrictions (June 2020). Multilevel modelling indicated divergent associations between the different sources of relational uncertainty and interdependence and somatization, depression and anxiety. Further analyses pointed to divergent findings regarding how change in self, partner and relationship uncertainty predicted change in somatization, depression and anxiety over the course of the study, depending on whether the three sources of relational uncertainty were analysed separately or simultaneously in the same model. Change in interference from a partner did not predict changes in psychological distress. Theoretical and practical implications of the findings are discussed.

KEYWORDS
COVID-19, interdependence, psychological distress, relational uncertainty

1 | INTRODUCTION

Following the COVID-19 rapid outbreak, many governments around the world took measures to control the spread of the disease by issuing lockdowns (Spinelli & Pellino, 2020). Stay-at-home orders lasted between several weeks in some countries and several months in others, presenting new conditions that dramatically changed people's daily routines and required family members to spend their time together, around the clock, at home (Bradbury-Jones & Isham, 2020; Brown et al., 2020). During the quarantine, individuals and families have been experiencing stressors related to the novel pandemic, such as social distance on one hand, with excessive presence of others at home on the other. These, combined with financial burden, job loss and health-related worries can have significant psychological impact (Estlein & Lavee, 2021; Kowal et al., 2020).

COVID-19 associated psychological distress (e.g., Xiang et al., 2020) is considered a form of stress response (Hedegaard et al., 1996). Specifically, anxiety and depressive symptoms were associated with stressors such as perceived financial strain, unemployment, younger age, having children at home and loneliness (Günther-Bell et al., 2020; Kowal et al., 2020; Palgi et al., 2020). As psychological distress has become a major global mental health problem during COVID-19 (Gunnell et al., 2020; Hamza et al., 2021), it is crucial to examine, in addition to the documented contextual and individual associated stressors, how one's intimate partnership is associated with their mental health because interpersonal support

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from a partner is central for establishing and maintaining a sense of emotional security and comfort (Collins & Feeney, 2010), especially in times of change and uncertainty (Monk & Ogolsky, 2019).

Intimate romantic relationships are particularly significant during stay-at-home orders because partners may spend significantly more time together. Moreover, as many of the stressors related to psychological distress in a time of disruption are closely interconnected with couples' relationship functioning (e.g., economic strain, unemployment; Karney et al., 2005); this relationship is especially important when considering the associations between these stressors and partners' mental health (Pietromonaco & Overall, 2020). Although the associations between relational factors in marriage and psychological distress have been previously documented (e.g., Falconier et al., 2015), less is known about the specific mechanisms that explain these associations, particularly in times of increased uncertainty, such as the COVID-19 pandemic.

The current longitudinal investigation draws on the relational turbulence theory (RTT) which highlights two relational mechanisms that are heightened during times of transition and change in couples' lives and lead to relational turbulence (Solomon et al., 2016): *Relational uncertainty* is a global term referring to doubts one may have about his/her own involvement in and desire to maintain the partnership (i.e., self-uncertainty), about his/her partner's involvement in the relationship (i.e., partner uncertainty), and about the relationship as a whole (i.e., relationship uncertainty). *Interdependence* encompasses two parameters of partner daily influence on their partner, either *interference*, where one perceives their partner's engagement in their daily routine as interrupting to achieve daily goals, or *facilitation*, where the partner is perceived as assisting in accomplishing one's everyday tasks and maintaining a routine. Relational uncertainty and interdependence correspond with heightened biased cognitive appraisals and emotional reactivity that prompt intense responses from partners (Solomon & Knobloch, 2004). Because the COVID-19 ongoing pandemic is characterized by an ever-changing daily routine, along with fewer opportunities for personal space, these conditions can increase uncertainty and interdependence within the relationship that may result in psychological distress.

2 | RELATIONAL UNCERTAINTY, INTERDEPENDENCE AND PSYCHOLOGICAL DISTRESS

The associations between relational uncertainty and interdependence and psychological distress are highlighted in recent findings showing that markers of mental health, such as depressive symptoms and nervousness, create and reflect tension within the relationship (Monk et al., 2020). In addition, findings point to the role played by mental health symptoms, particularly in the form of depression, in wearing out the marital relationship by increasing levels of ambiguity and perceptions of partner interference (e.g., Knobloch et al., 2013; Knobloch & Theiss, 2011). It is speculated that in terms of relational uncertainty, depressed individuals, as well as their partner, encounter

doubts about their own ability to love their partner (i.e., self-uncertainty), to be loved and supported by their partner (i.e., partner uncertainty), and to maintain a happy relationship for the long run (i.e., relationship uncertainty). It is less clear, however, whether self, partner and relationship uncertainty each corresponds with psychological distress similarly or differently. Whereas some scholars have argued for a conceptual distinction between the sources (see Goodboy et al., 2020), and several findings have pointed to divergent associations between each source and various individual and relational outcomes (see Solomon et al., 2016), others have treated them as facets of a shared umbrella term that change simultaneously when individuals are experiencing uncertainty about their relationship, and pointed to substantial covariation between them (Knobloch, 2010; Knobloch et al., 2007).

In terms of interdependence, interference seems to play a central role in the experience of partners: whereas individuals with depression may experience attention from their partners as intrusive, their partner may feel that the depressed spouse demands too much attention, treatment and support (Knobloch & Delaney, 2012). Interpretations of these associations have placed depressive symptoms as predictors of relational uncertainty and partner interference. It is possible, however, that relational uncertainty and partner interference generate increased mental health concerns because such conditions may give rise to negative emotions (Solomon et al., 2016). A recent meta-analysis of the literature on the relational turbulence model confirms that individuals report more depressive symptoms when they experience doubts about their relationship and perceive their partner as interfering with their daily activities (Goodboy et al., 2020). Delaney and Sharabi (2020) also suggest that relational uncertainty and interference from a partner contribute to intense relational interactions where partners with depression may be pushed to employ a demand/withdraw pattern as a marker for their distress. With studies starting to more closely examine the nature of the interplay between the relational turbulence mechanisms and psychological distress, a longitudinal design can help shed further light on these associations.

Examining relational uncertainty and interdependence processes between romantic partners as contributing to a stress response reflected in psychological distress is particularly relevant to the experience of couples during the days of COVID-19 lockdowns. First, lack of available information about when the familiar routine should return, and when and how the stay-at-home orders will be removed, as well as uncertainty about the ways and pace of the spread of the disease, generated high levels of uncertainty that could have reflected on the relationship as well. Second, during quarantine, specifically, conditions were ripe for relational uncertainty because when partners are required to spend a dramatically increased amount of time together under the same roof they may grow tired from each other, have concerns about whether their partner has grown tired from them, and worry that the relationship itself would not survive the difficult time. Ongoing uncertainty may further create conditions for increased psychological distress. Lillie et al. (2021) provide support for this assertion highlighting the association between relational

uncertainty and negative emotion, such as anger, fear, and guilt during COVID-19. In terms of interdependence, due to the quarantine, couples who cohabited spent much more time together than usual, making partner's daily influence much more salient. An overcrowded environment can lead to stress (Fuller et al., 1996), which can be associated with increased interference or facilitation from a partner. However, whereas interference from a partner might have increased negative emotion—as this parameter usually does (Solomon et al., 2016)—facilitation from a partner could have prompted positive emotion, allowing for functional relationship and better couple adjustment to the changing reality (Jones & Theiss, 2021), reflected in more or less psychological distress.

3 | CONTRIBUTION OF THE CURRENT STUDY AND HYPOTHESES

Previous findings on the associations of relational uncertainty and interdependence with mental health provide rich information on these processes. The present study attempts to extend this body of research in several ways. First, as psychological distress encompasses three main facets: (a) somatization, which refers to the presence of physiological symptoms related to significant distress; (b) anxiety, which includes features of excessive fear of real or perceived threat in present or future time; and (c) depression, which refers to the presence of sad and empty feelings and irritable mood (American Psychiatric Association, 2013; Derogatis, 2000), it is important to explore all three. These three dimensions of psychological distress are considered the most frequent mental health disorders in primary health care, with significant health-related consequences (Löwe et al., 2008). Whereas previous studies on relational uncertainty and interdependence tended to focus solely on depressive symptoms (e.g., Delaney & Sharabi, 2020; Knobloch & Knobloch-Fedders, 2010; Scott & Stafford, 2018), the current study draws attention to the associations of all three aspects of psychological distress with relational uncertainty and interdependence to further highlight the potentially harmful effects of the stressful experience.

Second, whereas previous studies have tested depressive symptoms as predictors of relational uncertainty and interdependence, recent findings indicate that the mechanisms of relational turbulence may function as predictors of depression as well (Stafford & Scott, 2016). Thus, the nature of the relationship between these variables needs to be more closely considered. Third, we aim to highlight potential similarities and dissimilarities across self, partner and relationship uncertainty in their associations with the experience of stress. Previous studies have found that, although usually covariate with one another, the three sources of relational uncertainty are not necessarily similarly associated with relationship outcomes in general and with mental health symptoms in particular (Scott & Stafford, 2018; Solomon et al., 2016). Such findings suggest that a distinct examination should be conducted for the association between each source of relational uncertainty and psychological distress: during COVID-19 specifically, it could be that individuals were more confused about their own

involvement in the partnership (self-uncertainty) because they were required to find balance between their needs for autonomy and togetherness in an overcrowded house. Alternatively, individuals may have had increased doubts about their partner's (partner uncertainty) interest to stay and be involved with them in the face of ever-changing demands to spend dramatically more time together. It could be, however, that because self and partner uncertainty refer to individual's uncertainty, they diverged from one's doubts about the dyad as a unit (relationship uncertainty; see Solomon et al., 2016) within the unusual circumstances of the pandemic. Thus, the contribution of each source to psychological distress during the first months of the pandemic requires a closer examination. Accordingly, we articulate our first set of hypotheses:

H1a: *Self-uncertainty is positively associated with symptoms of anxiety, depression and somatization.*

H1b: *Partner uncertainty is positively associated with symptoms of anxiety, depression and somatization.*

H1c: *Relationship uncertainty is positively associated with symptoms of anxiety, depression and somatization.*

Finally, and along similar lines with the previous point, we wish to take a closer look at the associations between the two facets of couple interdependence—that is, interference and facilitation from a partner—with psychological distress. Although only a few studies have tested both interference and facilitation from a partner in the same study (Solomon & Priem, 2016), and there are fewer studies that have measured facilitation from a partner than studies that have measured interference from a partner (e.g., Mikucki-Enyart & Caughlin, 2018; Scott & Stafford, 2018; see Solomon et al., 2016; Theiss et al., 2013), there is evidence to suggest that the two facets diverge in their associations with various outcomes (e.g., Burke et al., 2018; Jones & Theiss, 2021): whereas interference from a partner is experienced as interrupting (Solomon & Knobloch, 2004) and has been associated with negative outcomes (e.g., depressive symptoms and increased withdrawal during couple conflict; King & Theiss, 2016; Scott & Stafford, 2018), facilitation from a partner incites positive affect and has been associated with desired outcomes (e.g., positive appraisals of a partner's behaviour and less turbulent relationship; McLaren et al., 2011; Solomon & Priem, 2016). Thus, in order to extend what we know about facilitation and interference from a partner, we offer to study both constructs within times of change to explore the contribution of each to the examined outcomes. Based on previous findings and conceptualization, our second set of hypotheses posits that:

H2a: *Interference from a partner is positively associated with symptoms of anxiety, depression and somatization.*

H2b: *Facilitation from a partner is negatively associated with symptoms of anxiety, depression and somatization.*

The current study, thus, adds to the literature of relational uncertainty and couple interdependence by evaluating the associations between each of the three sources of relational uncertainty and the two sources of couple interdependence with psychological distress symptoms of anxiety, depression, and somatization during the COVID-19 lockdown.

4 | CHANGE IN RELATIONAL UNCERTAINTY AND INTERDEPENDENCE AS PREDICTORS OF PSYCHOLOGICAL DISTRESS

Because the nature of turbulence is flux (Scott & Stafford, 2018), we additionally wanted to explore not only the associations between relational uncertainty and interdependence and psychological distress but also whether the *change* in the mechanisms over time predicts anxiety, depression, and somatization. During a time of an ongoing global pandemic, a longitudinal exploration is particularly important because as of this point in time (February 2022), the pandemic is still raging around the world with governments inter-mittently issuing lockdowns, presenting a continuous challenge for couples and individuals. To the best of our knowledge, only one longitudinal study has explored how changes in relational uncertainty and interdependence over time explain relational qualities (Jones & Theiss, 2021). This study showed that changes in relational uncer-tainty and interference and facilitation from a partner were associ-ated with increased turmoil in couple relationship. Whereas Jones and Theiss have provided important initial findings on the associa-tions between changes in relational uncertainty and interdependence and relational outcomes during the early stages of COVID-19, less is known about how such changes correspond with mental health during the pandemic. Additionally, prior to Jones and Theiss' longi-tudinal study, we know of only two studies that have examined the associations between change, in addition to the amount of relational uncertainty and interdependence, and relationship outcomes over the course of a relational transition (Scott & Stafford, 2018, on the transition to marriage; Theiss et al., 2013, on the transition to parenthood). Similarly to Jones and Theiss, both of those studies indicated that changes in the relational turbulence mechanisms over time were associated with relational outcomes. More specifically, a change in relational uncertainty and interference from a partner over time better predicted relationship outcomes than the amount of change at each time point during the transition. In both studies, however, there was a clear event that marked a pre- and post-experience within the transition (i.e., the wedding and the birth of a child). During the current pandemic, however, there is an ongoing experience of uncertainty with an ever-changing daily routine with no clear event to mark a 'finish line' or rather, a 'before' and an 'after', as of now.

When there is no clear target-event to mark the transition, couples and individuals may experience the fluctuations during times of an intense change differently than when there is such an event. In addition, in the two previous studies, pre- and post-event data were collected within months apart. Such a gap between time points might have missed more nuanced changes in experiences of couples and individuals that may unfold over days or weeks. In the current reality of the COVID-19 pandemic, changes in perceptions and emotional reactivity, both at the individual and couple levels, are likely to be quite frequent and should be documented in more closely spaced time points. Thus, we inquire:

RQ1: *Does a change* in the turbulence mechanisms over time predict psychological distress?

5 | THE ISRAELI CONTEXT

In an early attempt to prevent the spread of COVID-19 in Israel, the Israeli government employed a line of restrictions increasing in severity, starting from banning flights from China in late January 2020, to halting flights from most other countries during February 2020. First cases of COVID-19 in the community were detected in late February 2020. In mid-March, a strict lockdown was enforced, restricting out-of-home travel to 100 m, and prohibiting all gather-ings. Only in mid-April some of the restrictions were alleviated, and stores were allowed to re-open, and only in early May young children and high schools pupils were allowed to go back to schools.

Although Israel is considered Western, it is also a multi-cultural society with different ethnic and religious groups. Due to divergent values across ethno-cultural groups and unification of religion and politics, the Israeli society has been experiencing an ongoing tension between traditionalism and individualism (Gavriel-Fried & Shilo, 2017). This characteristic has implications for diverse family values and expectations across sectors and individuals, with some Israeli couples are more traditional-oriented whereas others are more progressive in terms of their perceptions of family and part-nership dynamics (Birenbaum-Carmeli & Carmeli, 2010). The current study is the first to examine relational uncertainty and interdepen-dence within the Israeli context. Because Israel is diverse, couples may have different perceptions on marriage and committed re-lationships that may be reflected in the ways relational uncertainty and couple interdependence are associated with psychological distress during the early stages of COVID-19.

5.1 | Method

Our research design was a longitudinal study containing three time points of web-based survey conducted between April 1 and 14 June 2020, capturing individuals *during* the first lockdown, and *after* the lockdown. The first two waves of data were collected during the lockdown when severe restrictions were enforced (first wave data collected between April 1 and April 14 and second wave data collected between April 15 and 30 April 2020). The third wave of data collection was conducted after many of the restrictions had been removed (between June 7 and 14 June 2020).

After receiving Institutional Review Board approval, we recruited participants by posting an invitation on online forums and social media

outlets to take part in a study that explores associations between patterns of couple dynamics and coping with COVID-19. Participants were eligible if: (a) they were at least 18 years of age, (b) they had a romantic partner, and (c) the partners were cohabiting during the lockdown. We chose to focus on cohabiting couples due to the increased sensitivity to the partner and the relationship when in such intense physical and temporal proximity. Upon indicating that they met the criteria, participants had to provide consent in order to participate in the study. Participants were not offered monetary or any other incentive.

5.2 | Participants

Based on a snowball sampling, a total of 313 individuals (251 women, 62 men) participated in the study with the response rate for each survey ranged from 100% (wave 1) to 44% (wave 2) and 69% (wave 3; see Table 1 for the sample size for each wave of the study).[1] Participants ranged in age from 24 to 81 years ($M = 44.48$, $SD = 13.46$). Relationship duration ranged from 6 months to 60 years ($M = 18.82$ years, $SD = 14.88$) with 251 participants who were married and 62 who were cohabiting with their romantic partner but were not married. The majority of the sample had children at home (65%, ranged from one to five children, $M = 2.2$, $SD = 0.89$), with children age ranged from 2 months to 43 years ($M = 9.44$ years, $SD = 7.28$). In terms of employment, 60.1% of the participants in the study reported no change in their employment status or conditions at time point 1, 32.9% reported to have experienced changes in their employment status, including reduced number of work hours, or gone on a paid or unpaid leave, and less than 1% (3 participants) have lost their job (6.1% of the participants did not answer this question). At the same time, 52.9% of the participants reported that their financial state since the outbreak has been 'good' or 'very good', 32.3% reported 'quite good', and 14.8% reported 'not very good' or 'not good at all'. In terms of financial change, however, 33.9% of the participants reported that their current financial status has worsened since the outbreak, 65.8% reported no change in their financial status pre and post the outbreak, and only 0.3% (1 participant) indicated that their financial status has improved since the quarantine has started.

5.3 | Measures

We assessed the variables in this study using closed-ended Likert-type scales that were employed in prior research and conducted confirmatory factor analyses (CFAs) to evaluate the unidimensionality of all the multi-item scales and to ensure that they all met the acceptable criteria for internal consistency and parallelism (Hunter, 1982). CFAs were conducted using wave 1 data, and the same factor structure was confirmed in the subsequent wave 2 and wave 3 data. Across all waves, models showed acceptable goodness-of-fit which was assessed by $\chi^2/df < 3$, confirmatory fit index (CFI) > 0.95, and root-mean-square error of approximation (RMSEA) < 0.08 (Brown & Cudek, 1993). After confirming unidimensionality, the average of the retained scale items was used to create computed variables. Whereas demographic information was collected in wave 1 (i.e., gender, partner gender, age, religion, marital status, education, self and partner employment status before COVID-19, a change in self and partner employment status from pre- to post-outbreak, financial status before the outbreak, current financial status, marital duration, number of children living at home, and ages of children living at home), all other variables were measured in all three waves. In addition to demographic variables that were found to significantly correlate with the study variables in recent studies on COVID-19 and thus, were included in the final models, we also included social variables that prior research highlighted as potentially associated with psychological distress during COVID-19 (i.e., loneliness) or during transitional stages in couples' lives (i.e., relationship satisfaction) as control variables in our analyses. Table 1 presents the descriptive statistics of the dependent and independent variables for each wave.

5.3.1 | Psychological distress

We used the Brief Symptom Inventory-18 (BSI-18; Derogatis, 2000) to assess participants' level of distress ($1 = $ not at all, $5 = $ all the time) over the preceding seven days. The BSI-18 is a widely used scale for evaluating symptoms of the most common dimensions of psychological distress (Asner-Self et al., 2006), namely, somatization (e.g., 'feeling weak in parts of your body'; $\alpha = 0.74$), depression (e.g.,

TABLE 1 Descriptive statistics by wave

	Wave 1 (N = 313)			Wave 2 (N = 137)			Wave 3 (N = 216)		
	M	*SD*	*α*	*M*	*SD*	*α*	*M*	*SD*	*α*
Self-uncertainty	1.47	0.65	0.83	1.41	0.68	0.83	1.43	0.70	0.82
Partner uncertainty	1.43	0.65	0.86	1.38	0.61	0.87	1.37	0.61	0.87
Relationship uncertainty	1.81	0.83	0.80	1.77	0.86	0.83	1.72	0.84	0.82
Interference	1.67	0.67	0.82	1.60	0.60	0.81	1.58	0.59	0.83
Facilitation	3.42	0.95	0.85	3.29	1.03	0.85	3.44	1.03	0.87
Somatization	7.56	2.23	0.74	7.11	1.89	0.78	7.40	2.24	0.78
Depression	9.63	3.42	0.80	8.91	2.79	0.85	9.09	3.70	0.84
Anxiety	10.32	3.59	0.81	9.34	3.16	0.81	9.60	3.73	0.82

'feeling no interest in things'; $\alpha = 0.80$), and anxiety (e.g., 'suddenly scared for no reason'; $\alpha = 0.81$). We evaluated each dimension of psychological distress as a distinct outcome variable.

5.3.2 | Relational uncertainty

We assessed the three sources of relational uncertainty using items from Solomon and Brisini's (2017) scale (1 = *strongly disagree*, 5 = *strongly agree*). This measure was employed because it captures the qualities of committed intimate relationships which are assumed to characterize the romantic partnerships of the participants in our study (i.e., cohabiting couples). The scale includes items measured *self-uncertainty* (e.g., 'I sometimes unsure whether or not I want the relationship to last'; $\chi^2/df = 2.26$, CFI = 0.97, RMSEA = 0.07; $\alpha = 0.83$), *partner uncertainty* (e.g., 'I am sometimes unsure how important the relationship is to my spouse'; $\chi^2/df = 2.37$, CFI = 0.97, RMSEA = 0.07; $\alpha = 0.86$), and *relationship uncertainty* (e.g., 'I sometimes unsure about whether or not my spouse and I feel the same way about each other'; $\chi^2/df = 2.17$, CFI = 0.98, RMSEA = 0.07; $\alpha = 0.80$).

5.3.3 | Interdependence

Ten items from Solomon and Brisini (2017) were employed (1 = *strongly disagree*, 5 = *strongly agree*) for evaluating *interference from a partner* (e.g., 'My spouse disrupts my daily routine'; $\alpha = 0.82$) and *facilitation from a partner* (e.g., 'My spouse helps me in my efforts to make plans'; $\alpha = 0.85$).

5.3.4 | Covariates

We controlled for age, years of education, current financial status (ranging from 1 = *not good at all* to 5 = *very good)*, number of children at home, the age of the youngest and oldest children, and relationship duration. These were added as covariates because they can all be considered meaningful predictors of experienced distress. In addition, we controlled for relationship satisfaction and loneliness, as both were previously shown to be linked to emotional distress during COVID-19 (e.g., Horesh et al., 2020; Reizer et al., 2020). Relationship satisfaction was assessed using the 7-point Likert-type relationship satisfaction subscale from Fletcher et al.'s (2000) Perceived Relationship Quality Component (PRQC) Inventory (e.g., 'How satisfied are you with your relationship?'), and loneliness was measured using the UCLA Three-Item Loneliness Scale (Hughes et al., 2004). The three items (e.g., 'how often do you feel that you lack companionship?') are rated on a scale ranging from 1 = *hardly ever* to 3 = *almost all the time)*.

6 | RESULTS

We began by assessing the bivariate correlations between all study variables in the data of the first time point. Results indicated that self, partner and relationship uncertainty were all positively interrelated, and that they were positively associated with partner interference and negatively associated with partner facilitation. Additionally, they were all positively associated with the three facets of psychological distress, namely, somatization, depression and anxiety. Partner interference and partner facilitation were negatively interrelated, and whereas interference from a partner was significantly positively associated with somatization and depression (but not anxiety), facilitation from a partner was not significantly correlated with any of the psychological distress components (see Table 2).

Next, we conducted multilevel modelling (MLM) to explore the contribution of the study's variables to psychological distress during COVID-19. Due to the nature of our longitudinal design, which yielded both missing data and unbalanced response rates (e.g., some participants completed all three waves of the study whereas others completed wave 1 and wave 2 and yet others completed wave 1 and wave 3), MLM allowed us to account for the two issues as it accommodates both missing data and

TABLE 2 Bivariate correlations among the main study variables

	1	2	3	4	5	6	7	8
1. Self-uncertainty								
2. Partner uncertainty	0.56**							
3. Relationship uncertainty	0.71**	0.76**						
4. Interference	0.38**	0.42**	0.35**					
5. Facilitation	−0.25**	−0.21**	−0.24**	−0.17**				
6. Somatization	0.16**	0.24**	0.24**	0.12*	0.004			
7. Depression	0.23**	0.35**	0.32**	0.17**	−0.08	0.44**		
8. Anxiety	0.14*	0.27**	0.29**	0.06	−0.06	0.49**	0.78**	

Note: N = 313.
*p < 0.05, **p < 0.01.

unbalanced designs (Raudenbush & Bryk, 2002). We, thus, included in our analyses all participants who completed the first wave of the study (see also Knobloch & Theiss, 2010).[2] Following Allen et al.'s (2009) protocol for assessing control variables, we only included in our final models covariates that were significantly correlated with the dependent variables of this study. These included age, education, current financial status, number of children living at home, ages of youngest and oldest children, relationship duration, relationship satisfaction, and loneliness.

Recall that our first set of hypotheses posited that self, partner, and relationship uncertainty were each positively associated with anxiety, depression, and somatization (H1a, H1b and H1c). In addition, we hypothesized that interference from a partner was positively associated with each of the psychological distress symptoms (H2a) and that facilitation from a partner was negatively associated with each of the psychological distress symptoms (H2b). To test our hypotheses, we assessed each component of relational uncertainty (i.e., self, partner and relationship uncertainty) and interdependence (i.e., interference but not facilitation due to its non-significant correlation with any of the distress symptoms) in a separate model to assess potential divergent associations with each of the dependent variables as well as to avoid potential multicollinearity (see Knobloch & Theiss, 2010). However, as suggested by Solomon et al. (2016; see also Priem & Solomon, 2011), to cope with the potential statistical overlap among self, partner and relationship uncertainty in separate models, we also evaluated the three sources of relational uncertainty together in the same model. Thus, all in all, to test the effect of the study's variables on psychological distress, we created five models where three included each source of relational uncertainty separately, one included self, partner and relationship uncertainty simultaneously, and one included interference from a partner.

To evaluate the contribution of each of the four examined predictors (recall that facilitation was not significantly correlated with anxiety, depression or somatization thus, was not included in the models) to each of the three facets of psychological distress, we created two-level models using maximum likelihood estimation with repeated measures as Level 1 variables and stable and individual characteristics as Level 2 variables. This way, we were able to explore predictors of change in the dependent variables while controlling for stable and individual characteristics. Predicting variables were entered into the models as group-mean centred (i.e., centred around the individual's mean over the three study waves), covariates were entered as grand-mean centred (i.e., centred around the population mean), and the independent variables were uncentred. In each of our models, the intercept represents the association between the independent and the dependent variables (i.e., between-person effects), whereas the slopes inform these associations over the course of the study (i.e., within-person effects). These analyses enabled us to assess both the association between each variable and psychological distress as well as whether within-person change in relational uncertainty and interference from a partner across the three waves explains variation in psychological distress. Tables 3–5 present the results for the five models predicting somatization, depression and anxiety, respectively.

First, we examined the between-person effects for covariates and the within-person means on the intercept. In all the models, relationship satisfaction and loneliness altered the intercept indicating that first, individuals who reported higher levels of relationship satisfaction at the beginning of the study had lower levels of psychological distress and second, individuals who started the study with higher levels of loneliness reported higher psychological distress. Additionally, current financial status (since the outbreak) altered the intercept of the model predicting depression, meaning that individuals who initially reported lower current financial status reported higher levels of depression. The within-person means for self and relationship uncertainty, but not partner uncertainty and interference, increased the intercept for somatization, indicating that individuals with above average levels of self and relationship uncertainty reported higher levels of somatization. These results were received in both the combined model and the models that assessed each source of relational uncertainty separately, indicating that, in terms of somatization, H1a (self-uncertainty) and H1c (relationship uncertainty) were supported but H1b (partner uncertainty) and H2a (interference from a partner) were not. Continuing with depression, the within-person means for all the predicting variables in all five models increased the intercept for depression, indicating that individuals with above average levels of self, partner, and relationship uncertainty, and interference from a partner reported higher levels of depression. Thus, in terms of depression, H1a, H1b, H1c and H2a were all supported. Finally, the within-person means for partner and relationship uncertainty, but not self-uncertainty and interference, increased the intercept for anxiety in all five models, indicating that individuals with above average levels of partner and relationship uncertainty reported higher levels of anxiety. Thus, H1b (partner uncertainty) and H1c (relationship uncertainty), but not H1a (self-uncertainty) and H2a (interference from a partner), were supported in terms of anxiety.

The slopes document within-person changes in all variables across the three waves of the study, indicating whether changes in relational uncertainty and interference from a partner over the course of the study explain variations in the three facets of psychological distress. The results somewhat diverged across the combined and the separate models. First, whereas in the combined models (including all three facets of uncertainty) results indicated that change in self-uncertainty was significantly associated with somatization, in the models that analysed self-uncertainty separately, this association was not significant. Change in self-uncertainty was not associated with depression nor with anxiety in neither the combined nor the separate models. Second, change in partner uncertainty was significantly associated with depression in the combined model, but not when it was analysed individually. There was no significant associations between change in partner uncertainty and neither somatization nor anxiety in any of the models. Third, change in relationship uncertainty was not associated with somatization in any of the models, but it was significantly associated with depression

TABLE 3 Relational uncertainty and interference from a partner predicting somatization

	Combined model	Self-uncertainty	Partner uncertainty	Relationship uncertainty	Interference from a partner
Intercept	12.27***	6.73***	6.87***	6.66***	6.91***
Age	0.03	0.06	0.07	0.06	0.07
Education	0.02	−0.07	−0.05	−0.06	−0.05
Current financial status	−0.16	−0.09	−0.12	−0.09	−0.07
Children at home	−0.33	−0.22	−0.25	−0.24	−0.23
Young child age	0.02	0.02	0.02	0.02	0.03
Oldest child age	−0.02	−0.12	−0.11	−0.11	−0.13
Relationship duration	0.04	0.05	0.04	0.04	0.02
Relationship satisfaction	−0.24*	−0.37*	−0.34*	−0.35*	−0.33*
Loneliness	0.77*	0.23*	0.19*	0.19*	0.18*
Self-uncertainty mean	2.68*	0.47*			
Partner uncertainty mean	0.69		0.19		
Relationship uncertainty mean	1.47*			0.44*	
Interference from a partner mean					0.33
Slopes					
Self-uncertainty	3.43**	0.06			
Partner uncertainty	0.15		0.18		
Relationship uncertainty	0.47			0.08	
Interference from a partner					0.05

Note: The dependent variable is somatization. Coefficients are unstandardized. Cell entries in the intercept category are the change in the intercept attributable to age, education, a change in the participant's employment status from pre to post-outbreak, financial status before the outbreak, financial status since the outbreak, number of children living at home, ages of youngest and oldest children, relationship duration, relationship satisfaction, and loneliness or the within-person mean, which represents the between-person effect on that variable. The cell entries in the slopes category represent the within-person slope over the course of the study. Self, partner, and relationship uncertainty, and interference from a partner were each assessed in a separate model. N = 313.

*p < 0.05, ***p < 0.001.

in both the combined and the separate models, and with anxiety in the combined model, but not in the model that analysed the variables separately. Finally, change in interference from a partner over the course of the study was not associated with any of the psychological distress facets.

Due to the divergent associations between the different sources of relational uncertainty and interference from a partner and the three psychological distress aspects, we decided to examine these associations at each time point. To do so, we conducted similar but separate multiple regression models for each wave in our study. The detailed results of these analyses are presented in Table 6. Overall, the results show that, controlling for all covariates, in the first wave of the study the relational uncertainty sources and interference from a partner were all associated with both depression and somatization, and partner and relationship uncertainty also predicted anxiety. It was only relationship uncertainty, however, that predicted all psychological distress symptoms in all three waves. In wave 2, none of the other three mechanisms predicted any of the psychological

distress. Finally, in wave 3, both self and partner uncertainty, in addition to relationship uncertainty, predicted depressive and somatic symptoms (but not anxiety).

7 | DISCUSSION

Our main goal in the current study was to explore how each of the three sources of relational uncertainty—namely, self, partner and relationship uncertainty—and the two parameters of couple interdependence—namely, interference and facilitation from a partner—were associated with psychological distress symptoms of anxiety, depression and somatization during the COVID-19 stay-at-home orders in Israel. In light of initial findings that document associations between COVID-19 related stressors and psychological distress, we aimed at investigating these associations by employing a theoretical framework that highlights relational mechanisms as potentially underlying these associations. We assumed that relational

TABLE 4 Relational uncertainty and interference from a partner predicting depression

	Combined model	Self-uncertainty	Partner uncertainty	Relationship uncertainty	Interference from a partner
Intercept	7.73***	8.08***	8.02***	7.88***	7.34***
Age	0.02	0.04	0.05	0.02	0.09
Education	−0.01	0.01	0.04	0.02	−0.01
Current financial status	−0.70	−0.82*	−0.88**	−0.84**	−0.88**
Children at home	−0.18	−0.15	−0.15	−0.18	0.04
Young child age	0.12	0.12	0.11	0.12	0.18
Oldest child age	−0.10	−0.23	−0.21	−0.21	−0.31*
Relationship duration	−0.06	0.03	0.02	0.02	0.06
Relationship satisfaction	−0.40	−0.27*	−0.29*	−0.27*	−0.31*
Loneliness	1.49**	0.16*	0.20*	0.19*	0.21*
Self-uncertainty mean	0.65*	0.98**			
Partner uncertainty mean	1.24**		1.06**		
Relationship uncertainty mean	0.66**			0.93**	
Interference from a partner mean					1.33**
Slopes					
Self-uncertainty	0.50	1.21			
Partner uncertainty	1.57*		0.73		
Relationship uncertainty	0.39*			1.39**	
Interference from a partner					−0.233

Note: The dependent variable is depression. Coefficients are unstandardized. Cell entries in the intercept category are the change in the intercept attributable to age, education, a change in the participant's employment status from pre to post-outbreak, financial status before the outbreak, financial status since the outbreak, number of children living at home, ages of youngest and oldest children, relationship duration, relationship satisfaction, and loneliness or the within-person mean, which represents the between-person effect on that variable. The cell entries in the slopes category represent the within-person slope over the course of the study. Self, partner, and relationship uncertainty, and interference from a partner were each assessed in a separate model. N = 313.

*p < 0.05, **p < 0.01, ***p < 0.001.

uncertainty and interdependence were predictive of psychological distress in a reality characterized by an ongoing uncertainty and an increased time spent by partners together at home.

Overall, our results indicated that relational uncertainty and interdependence in the form of interference from a partner were indeed associated with psychological distress, but further highlighted distinctive associations between different sources of relational uncertainty and anxiety, depression and somatization. More specifically, whereas relationship uncertainty predicted all psychological distress symptoms, self and partner uncertainty predicted only some of the symptoms. Additionally, combined models with all three sources of relational uncertainty considered together indicated that, over the course of the study, change in self-uncertainty predicted changes in somatization, change in partner uncertainty predicted change in depression, and change in relationship uncertainty predicted change in depression and anxiety. In the models analysing self, partner and relationship uncertainty separately, however, only fluctuations in relationship uncertainty were significantly associated with a change

in depression over time. In terms of interdependence, whereas interference from a partner was associated with depression, partner facilitation did not predict any of the facets of the distress. Fluctuations in partner interference over time did not predict a change in psychological distress.

Starting with relational uncertainty, research has pointed at associations between relational uncertainty and relationship qualities, such as intimacy and satisfaction (Theiss & Estlein, 2014; Theiss & Solomon, 2008), as well as depressive symptoms (Scott & Stafford, 2016) and negative emotion (Lillie et al., 2021). Within an RTT framework, these associations can be explained by the process where individuals, in the absence of available information, rely on biased cognitive appraisals to interpret interpersonal situations. Solomon et al. (2016) explain that under conditions of ambiguity, one's ability to make sense of such situations is limited, but at the same time, the inconvenience generated by the uncertainty motivates an active interpretation. Due to incomplete information, however, people make distorted assessments of relational episodes which often result

TABLE 5 Relational uncertainty and interference from a partner predicting anxiety

	Combined model	Self-uncertainty	Partner uncertainty	Relationship uncertainty	Interference from a partner
Intercept	10.78***	9.23***	8.98***	8.15***	9.28***
Age	0.04	0.09	0.10	0.06	0.13
Education	0.08	0.05	0.06	0.04	0.02
Current financial status	−0.36	−0.64	−0.66	−0.60	−0.71
Children at home	−0.08	0.03	0.05	0.09	0.13
Young child age	0.10	0.11	0.10	0.12	0.08
Oldest child age	−0.11	−0.28	−0.26	−0.25	−0.27
Relationship duration	0.04	0.04	0.02	0.03	0.04
Relationship satisfaction	−1.12	−0.25*	−0.21*	−0.22*	−0.17*
Loneliness	1.32*	0.20*	0.19*	0.20*	0.19*
Self-uncertainty mean	0.12	0.65			
Partner uncertainty mean	0.64*		0.85**		
Relationship uncertainty mean	0.45*			1.14**	
Interference from a partner mean					0.52
Slopes					
Self-uncertainty	0.72	0.83			
Partner uncertainty	0.09		0.27		
Relationship uncertainty	1.18**			0.42	
Interference from a partner					0.47

Note: The dependent variable is anxiety. Coefficients are unstandardized. Cell entries in the intercept category are the change in the intercept attributable to age, education, a change in the participant's employment status from pre to post-outbreak, financial status before the outbreak, financial status since the outbreak, number of children living at home, ages of youngest and oldest children, relationship duration, relationship satisfaction, and loneliness or the within-person mean, which represents the between-person effect on that variable. The cell entries in the slopes category represent the within-person slope over the course of the study. Self, partner, and relationship uncertainty, and interference from a partner were each assessed in a separate model. $N = 313$.

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

TABLE 6 Relational turbulence mechanisms predicting psychological distress facets

	Time point 1 (April 1–April 15)			Time point 2 (April 16–April 30)			Time point 3 (June 7–June 14)		
	Anxiety	Depression	Somatization	Anxiety	Depression	Somatization	Anxiety	Depression	Somatization
Self-uncertainty	n.s.	0.19**	0.14*	n.s.	n.s.	n.s.	n.s.	0.32***	0.24**
Partner uncertainty	0.22*	0.26***	0.21***	n.s.	n.s.	n.s.	n.s.	0.18*	0.21*
Relationship uncertainty	0.23**	0.21**	0.21***	0.35**	0.24*	0.27**	0.19*	0.34***	0.28**
Interference	n.s.	0.21**	0.12*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

Note: $N = 313$.

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

in a pessimistic perception of themselves, their partner and their relationship (Solomon et al.). Our findings support Solomon et al.'s proposition and extend previous findings in that they document positive associations between mechanisms of relational uncertainty and pessimistic experiences in the form of psychological distress.

But why do self, partner and relationship uncertainty diverge in their associations with anxiety, depression, and somatization? Our

findings indicate that whereas relationship uncertainty strongly predicted all facets of psychological distress, self-uncertainty was associated with somatization and depression, and partner uncertainty was associated with depression and anxiety. Recall that RTT suggests that, in the face of absence of information, individuals rely on cognitive biases which can both distort comprehension of their partner's messages and affect their ability to clearly communicate

their needs and wishes. Such ambiguity makes it difficult for partners to cooperate and to adapt to an ever-changing routine. The required co-adjustment in the early stages of the pandemic may have placed the relationship itself under focus: partners may have asked themselves, can *we* join forces in order to adjust together to the ongoing change? It is speculated that, even beyond doubts partners had about each of them individually, it is the relationship as a whole that was perceived as specifically challenged in light of the circumstances brought by the pandemic and thus corresponded with all facets of psychological distress.

Furthermore, looking at the models from each wave, relationship uncertainty predicted psychological distress from the beginning of the lockdown, in its midst, and through after it had been removed, whereas self and partner uncertainty predicted psychological distress only at the beginning of the stay-at-home orders and several weeks *after* they had been removed. That is, towards the end of the first lockdown, neither self nor partner uncertainty predicted psychological distress. These results may suggest that ongoing doubts partners have about the couple unit account for increased psychological distress even when doubts about one's own and partner's involvement in the relationship do not. It could be that during a time characterized by an ongoing uncertainty where partners are forced to share time and space significantly more than usual, they are particularly worried about their ability to maintain their relationship *together*, in cooperation as a team. The relationship seems to be more vulnerable at such time because partners' concern focuses on challenges related to their partnership rather than on each of them individually. The process of co-constructing a shared daily routine forces partners to work together rather than separately. This requirement may push partners to make unusual extra effort to try to adjust to a routine that changes almost daily and thus, doubts about the resilience of the relationship itself over time, rather than about individual desire to maintain it, naturally rise.

Spillover effects can also provide an explanation for this association. Spillover effect, where affect from one setting in life transfers onto another (Schultz et al., 2004), suggests that feelings of uncertainty experienced due to the ongoing pandemic may spillover into couple interaction. Such spillover processes can be responsible for increased doubts about the partnership as a whole because spilled uncertainty colours the entire relationship rather than each of the partners' engagement in it. Indeed, prior research highlights the role of societal change characterized by conditions of high ambiguity (e.g., an ongoing change in daily routine during a global pandemic) in wearing out relational confidence, promoting doubts and concerns about the couple relationship (see Monk & Ogolsky, 2019). Moreover, as suggested by Knobloch (2008), in committed romantic relationships, such as marriage, uncertainty about the relationship may particularly be affected by factors external to the dyad. Our findings provide further support for this assertion, implying that whereas spouses may sometimes feel uncertain about their own and their partner's willingness to continue the relationship, they may have continuous doubts about their ability to make it as a couple as the ongoing stressful situation of the pandemic—which is external to the

relationship—continues to spillover into the partnership dynamics. Our results document distinctive associations between each source of relational uncertainty and psychological distress, but we join Scott and Stafford's (2018) call to further examine how each of the mechanisms of relational uncertainty leads to distress.

In terms of interdependence, our results show that only interference from a partner predicted psychological distress, and not facilitation. Moreover, partner interference predicted depressive and somatic symptoms at the first time point, but not later. This latter finding suggests that the beginning of the lockdown was the most difficult time for partners to adjust to in terms of spending increased time together. It may be that the beginning of the lockdown particularly required much adaptation to the changing dyadic routine in that partners had to reorganize their daily tasks and goals while considering each partner's needs and schedules. The sudden demand for a rearrangement of a shared daily routine requires numerous compromises from partners, which may be experienced as interruptions that interfere with each partner's goals. Our results, that showed that psychological distress was associated with partner interference only at the beginning of the lockdown but not as time went by, may indicate that participants in our sample were able to adapt to the ongoing lockdown with their partners. The findings in our study support recent findings which indicated that interference from a partner plays a significant role in exacerbating negative emotional responses in spouses during COVID-19 (Jones & Theiss, 2021; Knoster et al., 2020).

Whereas interference predicted psychological distress, facilitation did not. Although Solomon et al. (2016) explain that both disruptive (i.e., interference) and helpful (i.e., facilitation) interruptions from partners contribute to heightened emotional reactivity, they also point out that the way individuals appraise an interruption determines its valence: whereas perceived interference from a partner usually generates negative emotion, perceived facilitation from a partner often invokes positive emotion. Our focus on psychological distress may have resulted in documenting associations between the interdependence mechanism that sparks such emotion (i.e., interference) rather than the mechanism that incites more positive emotion (i.e., facilitation). This finding adds support to the explication that negative rather than positive aspects of a relationship impact depressive symptoms (Scott & Stafford, 2018). It would be interesting to see in future studies whether partner facilitation is associated with positive relationship characteristics, such as resilience and satisfaction.

Finally, our results pointed to dissimilar patterns of associations in *change* across the different sources of relational uncertainty and psychological distress over time, although the findings diverged between the combined models and the models that analyzed each source of relational uncertainty separately; thus, we need to be cautious in interpreting these results because neither can be considered conclusive (see Priem & Solomon, 2011). As a reminder, change in interference from a partner did not predict change in psychological distress over time. Starting with change in self-uncertainty, when all three sources of relational uncertainty were

included in the analysis, self-uncertainty change was significantly associated with change in somatization. It could be that, as a self-focussed mechanism (Ingram, 1990), attention to doubts about one's own involvement in the relationship enhances worrying thoughts about one's ability to cope with these difficulties, which manifested in physiological symptoms (i.e., somatization). The role of cognitive biases in the form of self-focussed attention in generating enhanced stress has been previously documented (see Mor & Winquist, 2002). In the context of the current study, we speculate that the conditions created by the pandemic could have increased one's focus (i.e., self-focussed attention) on their own difficulties and challenges in the relationship leading them to biased negative cognitive appraisals. Such biases have been documented to associate with increase somatic manifestations of stress (Liao & Masters, 2002). In the model that exclusively focussed on self-uncertainty, however, change in self-uncertainty was not significantly associated with changes in somatization. These results are in contrast with previous studies (Scott & Stafford, 2018; Theiss et al., 2013) that found significant associations between changes in all relational uncertainty sources, including self-uncertainty, and outcomes over time. The divergent results on self-uncertainty across the models is, however, in line with Priem and Solomon (2011) who detected a similar trend of divergent results regarding the association between self-uncertainty and cortisol reaction to hurtful messages in romantic relationships: when covaried with the other two sources of relational uncertainty, change in self-uncertainty had a unique effect on changes in levels of cortisol but in separate models it did not. Thus, both Priem and Solomon and the current findings detected a physiological manifestation of psychological distress in the combined model but not in the separated analyses. Although neither analysis could be determined conclusive, based on previous findings and similarly to Priem and Solomon, we speculate that self-uncertainty may have a unique contribution to somatic manifestation of relational distress. Priem and Solomon called for further empirical exploration of these interpretations, and we join them in their call.

In terms of change in partner uncertainty, when all three sources of relational uncertainty were included in the analysis, partner uncertainty change was significantly associated with changes in depression over the course of the study. This association may suggest that when individuals have limited access to their partner's thoughts, feelings, and intentions, frustration may grow, possibly manifesting in increased despair. The interplay between uncertainty, frustration, and despair has been previously documented (e.g., Salduker et al., 2019; Stasik et al., 2020). Interestingly, Solomon et al. (2016) indicated that whereas self and relationship uncertainty had been previously documented to have unique direct effects on outcomes, partner uncertainty had not, and thus, it is thought to be fully mediated by relationship uncertainty when analysed in the same model. To the best of our knowledge, our finding provides first evidence for a possible unique effect of partner uncertainty change on depression over time. When examined individually, however, partner uncertainty change was not significantly associated with depression

(or any other facet of psychological distress), suggesting that when combined with the other relational uncertainty sources, the effect for partner uncertainty change may actually be a result of spurious patterns in the limited variance remaining after self and relationship uncertainty are considered simultaneously in the same model (Priem & Solomon, 2011). Further examination of these associations are thus needed.

Finally, change in relationship uncertainty was significantly associated with change in depression in both the combined and separate models, and with anxiety in the combined model. The significant associations between relationship uncertainty and depression in both the combined and separate models suggest that this source of relational uncertainty may be a particularly significant contributing feature to the experience of romantic partners during COVID-19: ongoing doubts about the relational unit as a whole seem to correspond with negative perceptions of the couplehood, first in the form of despair (i.e., depression) and as fear-generating (i.e., anxiety) as well. Considerable research has documented the association between relationship distress and both depression and anxiety (see Lebow et al., 2012). Our findings highlight the possibility that relationship uncertainty serves as a specific mechanism underlying these associations.

The divergent results concerning the associations between changes in the relational uncertainty sources and psychological distress across the separate and combined models require further discussion. Whereas the findings from the combined models pointed to some associations between change in each source of relational uncertainty and changes in facets of psychological distress, the results from the separate models did not. On one hand, the results from the combined models supported previous findings about self-uncertainty as a distinct construct associated with somatic manifestation of distress and highlighted partner and relationship uncertainty as sharing the feature of increased doubts that are coming from outside of the individual (i.e., partner, relationship) and thus, may predict similar outcomes (i.e., depression). On the other hand, our findings from the separate models, where each source of relational uncertainty was analysed individually, suggested that between-person effects rather than within-person effects over time explained the associations among our tested variables. According to these results, it is the amount of relational uncertainty and partner interference that predicted concurrent psychological distress rather than the change (increase or decrease) in these variables. This finding is not in line with three previous studies (Jones & Theiss, 2021; Scott & Stafford, 2018; Theiss et al., 2013) that found that changes in relational turbulence mechanisms over time predicted concurrent spousal outcomes. The different result may be explained in two ways. First, whereas Jones and Theiss identified associations between the mechanisms of relational turbulence and relational outcomes (e.g., relational tension, aggressive relational communication) during COVID-19, the current study has examined how relational uncertainty and interdependence were associated with individual mental distress during the pandemic. It may be that in terms of individual, personal experiences, relational uncertainty and interference from a

partner correspond differently than with relational outcomes. This speculation should be further explored in future research. The divergent findings could also be the result of cultural differences across American and Israeli samples. Second, the nature of the transitional contexts examined in this study differed from that of the two non-COVID-19 longitudinal studies: whereas the studies on the transition to marriage (Scott & Stafford, 2018) and the transition to parenthood (Theiss et al., 2013) could measure relational uncertainty and interference from a partner pre and post the event, the ongoing pandemic, with changing lockdown routines, marks a transition from an 'old norma'' to a 'new normal' (Knoster et al., 2020) with no clear 'before' and especially 'after'. In such a reality, uncertainty and interference—and accordingly, couple adjustment—are ongoing, challenged every day by increased or decreased levels of (un)available information and time and space spent together. Therefore, it may be that, unlike other transitions, there were no 'episodic spikes' (Theiss et al., 2013) to capture but rather, at any given moment, partners are dependent on changing evaluations and expectations regarding the end of the pandemic and its related routine. Daily fluctuations may thus be more volatile and unsteady in such a time. The frequent fluctuations may confuse romantic partners and drive them, when asked, into holding onto and relying on global appraisals of their relationship characteristics rather than on how they feel in that specific moment.

Divergent results from models where the three sources of relational uncertainty were examined once simultaneously and once individually suggest that further exploration is required. With most previous studies using either one strategy or the other, and with relational uncertainty being recently operationalized as a bifactor model with three distinct but overlap constructs (Goodboy et al., 2021), our results call for furthering the ongoing methodological discussion on this issue.

8 | THE ISRAELI CONTEXT

Our study is the first to investigate relational uncertainty and interference from a partner within the Israeli context. Our findings suggest that, similarly to other Western countries and particularly the United States, these mechanisms seem to play an important role in predicting distress during times of uncertainty and change. They also suggest, however, that whereas prior work from non-Israeli studies have found associations between all relational uncertainty sources and various of outcomes during COVID-19 (e.g., Jones & Theiss, 2021; Lillie et al., 2021), in our Israeli sample each source of relational uncertainty diverged in its association with different facets of distress. A similar trend was found with regard to couple interdependence where, contrary to US-based studies (Goodboy et al., 2021; Jones & Theiss, 2021; Knoster et al., 2020), only interference from a partner, but not facilitation, corresponded with psychological distress. It is possible that with the ongoing stress that characterizes the life in Israel both pre- and during the pandemic (Hobfoll et al., 2009; Pat-Horenczyk & Schiff, 2019), Israeli couples'

accumulated tension has led them to focus more on the negative, rather the positive facets of couple interdependence, noticing interruptions from partners more than assistance from them. However, Solomon et al. (2016) pointed out that whereas individuals tend to take for granted facilitation from partners, interruptions stand out, so patterns of interference from a partner can particularly invoke emotional reaction to relational episodes, regardless the cultural context. Thus, in order to further highlight similarities and dissimilarities across cultural samples, more cross-cultural studies are needed.

9 | STRENGTHS, LIMITATIONS AND FUTURE DIRECTIONS

The current study has several significant strengths. First, its longitudinal nature allowed us to follow changes in relational turbulence mechanisms and psychological distress from one time point to another during an ongoing global pandemic. Conducting a longitudinal design during a unique time with no clear end-point is important in this it enabled us to track changes in characteristics of intimate relationships, which constitute the central social environment for many in a time of ongoing social distancing. The attempt to capture the dynamics of relational characteristics over time is pertinent to the study of relational turbulence because both turbulence and transitions are inherently ongoing. We were able to capture this element which is fundamental in the very nature of these constructs.

Second, although findings on the numerous factors associated with changes in couple relationship during COVID-19 are starting to accumulate, it is important to understand these processes within a clear theoretical conceptualization that can highlight the mechanisms underlying these associations (see Pietromonaco & Overall, 2020). Our study employed a well-established conceptual framework of RTT which allowed us to offer theoretical explanations for associations found in prior research. Third, our study extends the RTT to focus on one context that is not a normative transitional event in a couple's life (e.g., the transition to parenthood). In doing this, the current research adds to the existing literature on relational turbulence in expanding our knowledge on intense relational experiences that have interpersonal, emotional, and even physical consequences for partners and for the relationship (Knoster et al., 2020). Such focus also adds significant knowledge about the relationship dynamics within the specific context of COVID-19. Fourth, this is the first study to report findings on relational uncertainty and couple interdependence from an Israeli sample. Whereas most of the research on relational turbulence and its mechanisms has come from the United States (but see Theiss & Nagy, 2013), it is also important to apply the developing theory to diverse cultures to detect similarities and differences across contexts.

Finally, our results have important practical implications for assisting couples navigate through the ongoing stressful time of the current pandemic. Professionals who work with couples can highlight, for example, the need for partner cooperation in terms of co-

constructing a shared routine while paying extra attention to potential experiences of interference can alleviating some stress for partners. In addition, pointing that uncertainty in general and relational uncertainty in particular is normal at this time could also ease some of the negative thoughts and emotions partners may have with regard to their relationship. Moreover, encouraging couples to consider doubts that specifically rise with regard to the dyadic unit, to the partnership itself, and openly discuss them may assist partners to find ways to cope with such ambiguity. Prior work has highlighted the role of communication quality and communication efficacy in couples and its contribution to establishing and maintaining better interpersonal coping and support, especially in times of ambiguity and experiences of uncertainty and stress (Afifi et al., 2020; Romo, 2015). Moreover, highlighting the potential outcomes related to ongoing relationship uncertainty, as documented in our study, can help intimate partners consider the role of this relational mechanism in experiences of depression and distress, particularly during times of an ongoing crisis such as COVID-19, and discuss ways to manage it. Such processes can have positive implications in terms of alleviating stress, distress, and improving mental health concerns.

This study also has limitations that should be acknowledged. First, our sample consisted of individuals rather than couples. This limits our ability to account the reciprocal influences partners may have on each other with regard to uncertainty, interdependence, and psychological distress. Second, there were significantly more women than men in our sample, which could limit our understanding of the experience for male partners. Third, we only had information about participants' financial and employment status from the first wave of data collection so we could not track any possible changes in these areas which may have had influence on participants' perceptions of their relational characteristics and psychological distress during the second and third waves. Fourth, although we were able to follow participants over three time points, following participants for a longer period of time, as well as within less-spaced time points, can add information beyond what was reported in this study. Finally, although the study was specifically designed to assess couples' relationships during the first COVID-19 lockdown, the measurements were not specific to COVID-19. We do believe, however, that the results reflect individuals' responses to the extreme situation, in line with other studies, identifying relational and mental trends following the COVID-19 outbreak (see also Central Bureau of Statistics, 2020).

To conclude, our findings shed new light on how self, partner, and relationship uncertainty, as well as partner interference, distinctively predict different facets of psychological distress both cross-sectionally and over time in a stressful ongoing reality. The complex results have both theoretical and practical implications for understanding the interplay between specific interpersonal and individual psychological processes that can be of an assistance for professionals who work with couples during the pandemic and beyond. Future research should continue to employ longitudinal designs in order to document changes in individual and relationship qualities over time and their potential implications for relational

characteristics and psychological experiences, as well as to explore cross-cultural similarities and differences in relational uncertainty and couple interdependence in general and during this unique time of the COVID-19 ongoing pandemic in particular.

CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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ENDNOTES

[1] We speculate that, because data collection in wave 2 was quite close to data collection of wave 1 and was still conducted under lockdown conditions, response rates decreased relatively more than during wave 3 data collection, where participants were probably more available and willing to complete the survey again, after the lockdown and many related restrictions were alleviated which allowed response rates to increase again.

[2] We further conducted post-hoc sensitivity analyses which included only the participants who completed all three waves of the study ($N = 109$) and found similar results.

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