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Motivated Behavior in Intimate Relationships: Comparing the Predictive Value of Motivational Variables

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Abstract

Motivational variables are considered fundamental factors influencing the occurrence of behavior. The current study compared different types of motivational variables (implicit and explicit motive dispositions, motivation as states and as aggregated person-level variables) in their ability to predict communal and agentic behavior reports in intimate relationships. 510 individuals completed measures of dispositional communion and agency motives and participated in a dyadic experience sampling study with five assessments per day across four weeks. They reported on their momentary communal and agentic motivation, as well as on their own and their partner's behaviors. All examined types of motivational variables predicted certain behavior reports on the between-person or within-person level and had incremental effects beyond the other motivational variables in at least one motive domain. Directly replicating and conceptually extending prior research, the effects of motivational states and their aggregates were consistently found across behavioral outcomes, across self- and partner-reports and across the motive domains of communion and agency. Using the example of motivational states, the general value of assessing within-person variables for psychological phenomena in ESM-designs is discussed.

Keywords

implicit motives, explicit motives, motivation, behavior reports, intimate relationships, partner-report, experience sampling method



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Motivational variables have been described as one major determinant of behavior. A fundamental notion about motive dispositions, for example, is their function, to orient, select and energize behavior towards certain incentives or away from certain disincentives (McClelland, 1987; McClelland, Koestner, & Weinberger, 1989), providing insights into the “why” of behavior (McClelland, 1987; Schultheiss, 2008). Motives from different domains (e.g., communion or agency) orient people’s attention to different incentives (e.g., closeness or distance), which results in selecting different behavior that is instrumental to goal attainment (e.g., spending time with others or alone), and energizing this behavior despite potential barriers. The distinction between implicit and explicit motives showed to be further relevant for the specific nature of the instrumental behavior (e.g., nonverbal or verbal, Craig, Koestner, & Zuroff, 1994; Hagemeyer, Dufner, & Denissen, 2016; McAdams et al., 1984a; McClelland et al., 1989; Schultheiss, 2001; Spangler, 1992). Further, both motivational variables and behavioral outcomes can be assessed and examined on the within- and between-person level (e.g., McAdams & Constantian, 1983; Zygare et al., 2018a).

For the domains of communion and agency, the current study builds on these distinctions by comparing three different classes of motivational variables in their ability to predict self- and partner-reported behavior in intimate relationships: 1) Implicit and explicit motive dispositions, 2) Motivational states as within-person variables, and 3) Aggregated motivational states as between-person variables. Data from an intensive longitudinal study employing the experience sampling method (ESM; Csikszentmihalyi & Larson, 1987) in a dyadic design is used to differentiate within-person from between-person effects of motivational states.

Motivational Variables

Implicit and Explicit Motive Dispositions

Motive dispositions are defined as relatively stable, inter-individual differences in preferences for certain classes of incentives (McClelland, 1987; Schultheiss, 2001). In a dual-systems model of motivation, McClelland et al. (1989) provide arguments and early evidence that implicit motives (assessed with projective measures) and explicit motives (assessed with self-report questionnaires) are two qualitatively different motive dispositions, which are at most weakly correlated (see Köllner & Schultheiss, 2014 for a meta-analysis). Implicit motives are considered to be non-consciously represented, while explicit motives are considered part of one’s accessible self-concept. A defining difference between these two constructs is the nature of the incentives they pertain to and the behavior they are assumed to evoke (McClelland et al., 1989): For implicit motives, the rewarding nature of incentives is supposed to be intrinsic to the behavior that attains the goal, being represented by rather uncontrolled behavior or in rather unstructured situations. According to Schultheiss (2001, see also Schultheiss, 2008), they are assumed to mainly respond to non-verbal cues (e.g., facial expressions) and to impact bottom-up behavioral regulation

(indicated by “non-declarative measures”, e.g., physiological responses, expressive and automatic behavior). For explicit motives, a more extrinsic drive is assumed that becomes effective in more structured situations, for example, when making a choice while having one’s self-attributed goals or an external social demand in mind. They are assumed to mainly respond to verbal-symbolic cues (e.g., conversations) and to impact top-down reflective behavior (indicated by “declarative measures”, e.g., deliberate judgments). A detailed review of studies linking implicit and explicit motives to different kinds of behavior is provided by [Stanton, Hall, and Schultheiss \(2010\)](#).

Motivational States

Whereas motive dispositions are conceptualized as relatively stable inter-individual differences, motivational states are transient, intra-individually varying, and influenced by the situation. The term motivation describes an aroused motive (for an overview, see [McClelland, 1987](#), p. 84), which is an “affectively charged state that energizes and directs action aimed at the attainment of a reward (or avoidance of a punishment)” ([Schultheiss, Strasser, Rösch, Kordik, & Graham, 2012](#), p. 650). Motivation is expected to emerge from motive dispositions, situational cues, and also their interaction: First, moderately strong situational cues (e.g., the opportunity to socialize) may arouse a motivational state only for those with a strong correspondent motive ([McClelland, 1987](#); [Schultheiss et al., 2012](#)). Second, situations may differ in their average level of need satisfaction, resulting in more experiences of unsatiated motivation for individuals with a strong motive disposition compared to those with a weak motive (see [Bischof, 1975](#); [Zygar et al., 2018a](#) for a more detailed take on this). Within-person variation in explicit motivational states can be measured via self-report by repeatedly asking participants about their current motivation for certain goals.

Aggregated Motivational States

Beyond that, applying the ESM provides the possibility of aggregating motivational states for each individual across a certain period, with the mean of states representing the inter-individually varying average experience of motivational states as a new between-person variable.

Construct status — [Stapleton, Yang, and Hancock \(2016\)](#) differentiate two boundary cases for the construct status of aggregated constructs in the situation of persons nested in groups. We apply the logic here to repeated measurements nested in persons. The first type is (purely) *shared cluster constructs*. In this case, within-person measurements are intended to measure a between-person construct, and a reflective causal relationship is assumed ([Lüdtke, Marsh, Robitzsch, & Trautwein, 2011](#)) where variation in the between-person constructs causes variation in the within-person measurements. In the absence of measurement error, ideally all within-person measurements reflect the same

latent value of the person construct, with minimal variability at the within-person level. The second type is (purely) *configurational cluster constructs*, which represent summary indices of the responses on the within-person level (e.g., averages). In contrast to shared cluster constructs, here a formative measurement model is assumed (Lüdtke et al., 2011). Hence, it is *not* expected that the responses at the within-person level are interchangeable or at least highly similar.

Several authors emphasized that between-person variables based on an aggregation of within-person measurements can also represent a mixture of shared/reflective and configurational/formative aspects (Bliese, 2000; Lüdtke et al., 2011; Stapleton et al., 2016). In such “fuzzy composition processes” (Bliese, 2000), the main difference between the within-person variable and the between-person aggregate is that other between-person predictors can explain the between-person variance part of the aggregate variable – representing contextual influences which are not captured by the within-person measure.

Such a mixture would fit the nature of aggregated motivational states: As we assume that motivational states are influenced by time-varying factors, such as situations, their aggregate cannot be a purely reflective construct. At the same time, the aggregated variable suggests a certain reflective status as it is theoretically expected and has empirically been shown that dispositional motive strength (i.e., of implicit and explicit motives) predicts the propensity to experience a motivational state (Zygar et al., 2018a). This implies that aggregated states contain stable and systematic (between-person) variance, that is reflective of an individual’s motive strength. In fact, a variance decomposition of motivational states has shown that the variance between persons and couples is roughly of the same size as the variance within persons (Schönbrodt, Zygar-Hoffmann, Nestler, Pusch, & Hagemeyer, 2019). Hence, we conceptualize aggregated motivational states as simultaneously formative summaries of the motivational climate during the assessment period, as well as being causally influenced by motive dispositions.

Delineation from motive dispositions – What differentiates aggregates of motivational states from explicit and implicit motives? A theoretically assumed feature of motive dispositions is a certain stability over time (see Denzinger & Brandstätter, 2018 for an overview on implicit motives). Although changes are not impossible, shifts would be assumed to occur moderately as a result of a slow situational adaptation (Bischof, 2008; Gubler & Bischof, 1991).

The stability of average motivational states, in contrast, can vary: As a motivational state is assumed to emerge from an interaction of (relatively stable) motive dispositions and (potentially unstable) situational influences, the stability of aggregated motivational states depends on the permanence of the situation over the measurement period. For example, if a relationship provides rather constant and steady (dis-)incentives and (dis-)satisfaction, one would assume that individuals in this relationship have a rather stable motivational climate during the considered time. Similarly, average experiences

of motivation should change profoundly within a person when qualitatively different measurement periods are compared (e.g., a longer absence of the partner compared to a shared holiday trip).

In our view, motivational states, aggregated motivation, and motive dispositions could therefore be best placed on a continuum representing the permanence of situational features needed to evoke change in the measure: Motivational states are based on direct, rather immediate situational contingencies; aggregated motivational states represent typically experienced contingencies during a specific time-frame; and repeated time-frames of experienced contingencies are necessary for a slow, and thus time-delayed adaptation of implicit and probably also explicit motive dispositions.

The Influence of Motive Dispositions and Motivational States on Behavior

Many classical theoretical accounts on motivation are formulated on an intra-individual level, emphasizing the waxing and waning of motivation and behavior within persons over time and situations (see, e.g., Atkinson & Birch, 1970). In contrast, many empirical studies linking motivational variables to behavior do this on a between-person level. Although between-person variables like motive dispositions are indicative of which individuals are generally more prone to show certain types of behavior, this result cannot be seamlessly transferred to the within-person level (Molenaar, 2004; Molenaar & Campbell, 2009; see also Affleck, Zautra, Tennen, & Armeli, 1999 for an accessible introduction). Within-person variables capturing varying motivational states of each person are necessary to predict in which instances a single individual is more prone to show a certain behavior, and thereby to align a study's design to the theoretical within-person models on motivation.

Furthermore, many motivational theories (implicitly or explicitly) imply that the influence of motive dispositions on behavior is fully mediated via state motivation (McClelland, 1987; Rheinberg, 2002; see also Zygar et al., 2018a). This strict interpretation implies that a strong latent motive disposition does not per se trigger more behavior than a weak motive disposition – instead, (only) the experience of a high level of *momentary* motivation should prompt more instrumental behavior. In contrast to this perspective, a between-person analysis could still find incremental effects of motive dispositions beyond the state effects of motivation. Repeated enactment of instrumental behavior that gets reinforced by a satiation of needs, for example, can lead to habits. Consequently, if strong motive dispositions are correlated with corresponding behavioral schemata and habits, a between-person analysis could reveal that persons with strong motives habitually show more instrumental behavior, even when no current motivation is present. This would become evident in effects of globally assessed implicit and/or explicit motive dispositions predicting behavior beyond the between-person effect of aggregated motivational states.

Behavioral acts in uncontrolled everyday situations are multi-determined phenomena, which sets an upper limit on the variance that can be explained by motivational factors. Whether motives and motivation lead to actual instrumental behavior depends on additional factors, both in the situation (e.g., opportunities and barriers), and in the person (e.g., habits, necessary skills, restraining self-control, or conflicting motivations). It is theoretically expected that these additional factors contribute to the prediction of behavior, both as main effects and in interaction with motives and motivation (McClelland, 1987; Schultheiss, Kordik, Kullmann, Rawolle, & Rösch, 2009). Nonetheless, various previous studies operated under the assumption that, averaged across situations, higher motives and/or higher motivation lead as a main effect to more instrumental behavior (e.g., McAdams et al., 1984a; Schultheiss, Dargel, & Rohde, 2003; Zurbriggen, 2011; Zygar et al., 2018a). In the current analyses, we also take this stance and focus on the marginal main effects of motivational variables on everyday behavior.

What Kind of Behavior? The Domains of Communion and Agency Motives

Motives can be classified based on the (dis-)incentives they correspond to. One possible, rather broad distinction is the orientation towards communal versus agentic interpersonal incentives. This classification was introduced by Bakan (1966), who postulated communion and agency as two fundamental concepts for the study of human behavior. While the term communion reflects the participation of the individual in a larger social context, by forming connections to and cooperating with others, agency entails a focus on the individual, on separations and mastery (Bakan, 1966). Different theoretical frameworks emphasize different aspects of communion and agency (Abele, Cuddy, Judd, & Yzerbyt, 2008), and facets have been suggested in the area of social cognition (Abele et al., 2016). Based on the definitions of partner-related needs by Hagemeyer and Neyer (2012), we also differentiate the agency motive into two facets, namely independence and power motives, and discuss which concrete classes of goal states communion and agency motives aim for in couple relationships.

Closeness as Core Incentive of the Communion Motive in Couple Relationships

According to Hagemeyer and Neyer (2012), a core incentive for the partner-related communion motive is the experience of closeness and a sense of unity with the partner. This may be achieved by warm and kind interactions, for example, by actively engaging with each other or disclosing thoughts and feelings to each other. On an explicit level, this is captured by the partner-specific desire for closeness (Hagemeyer, Neyer, Neberich, & Asendorpf, 2013), and by the more global intimacy motive, which is characterized by the desire for experiencing interpersonal closeness in general (Schönbrodt & Gerstenberg, 2012).

Regarding the dispositional level, there are already many studies linking communal motives to diverse types of behavior in relationships (e.g., Craig et al., 1994; Dufner, Arslan, Hagemeyer, Schönbrodt, & Denissen, 2015; Hagemeyer et al., 2016; Lansing & Heyns, 1959; Mason & Blankenship, 1987; McAdams & Constantian, 1983; McAdams et al., 1984a, 1984b; Schüler, Job, Fröhlich, & Brandstätter, 2008; Zurbriggen, 2000). For example, Craig et al. (1994) showed that the explicit intimacy motive predicts the number of social interactions in daily life, while the implicit intimacy motive predicts the number of dyadic interactions in particular. On a state level, we already showed that communal motivational states are predictive of subsequent specific communal behavioral acts at the within-person level, with aggregated states having an additional effect on the between-person level (Zygar et al., 2018a). This study, however, neither contrasted this to dispositional measures (such as implicit or explicit motives) nor examined agency as another relevant motive domain.

Two Implementation Styles of the Agency Motive

Hagemeyer and Neyer (2012) define the implicit agency motive in the context of romantic relationships as “a recurrent concern for experiences confirming the self as an independent and capable individual” (p. 116). Two facets are considered simultaneously in this definition: Independence and power. On the one hand, both independence and power share the goals of placing the individual first and forming separations from others, constituting the reason as to why they are subsumed under the agency motive. On the other hand, independence can be achieved by individual activities, whereas the realization of power requires some form of contact with the partner.

Individuals with a high power motive experience reward from exercising dominant behavior, for example, by influencing, impacting and controlling other people’s behavior, emotions or thoughts (McClelland, 1987; Winter, 1973). While the power motive is often regarded as negative and manipulative (“personalized power”), it can also become evident in pro-social actions, such as having an impact by supporting others (e.g., advising) or by cheering them up (i.e., influencing feelings in a positive way, “socialized power”; McClelland, 1970, 1975). Still, this pro-social agentic behavior is motivated by the need for the mastery of the situation and the experiences of one’s power, and not by the need to form a connection (as would be the case for the communion motive). The power motive is thus characterized by the need to distinguish the individual from other persons, realized by the ability to influence and to impress (e.g., enforcing decisions or seeking admiration in the relationship). Although other persons are essential to exert dominance and to receive prestige, the focus lies on the individual creating a psychological separation (Hagemeyer & Neyer, 2012; McClelland, 1987; Winter, 1973).

Concerning the need for independence, the individual is placed first by means of creating autonomy, freedom and individuality. This translates into the goals of pursuing

one's own interests independently, being a capable individual without the help of others (e.g., the partner), and spending time by oneself (Hagemeyer & Neyer, 2012).

So far, research has mainly focused on the relations between *dispositional* agency motives and relationship behavior, for example, the implicit power motive predicting agentic leadership and persuasive behaviors in friendships (McAdams et al., 1984a; see also Ackerman & Corretti, 2015; Mason & Blankenship, 1987; Zurbriggen, 2000, 2011). Further, dispositional implicit and explicit independence motives were associated with couples' living arrangements, that is, whether men or women at different ages were coresident with their partner or living apart (Hagemeyer, Schönbrodt, Neyer, Neberich, & Asendorpf, 2015).

The Current Study

We investigate the ability of motivational variables on three conceptual levels (motive dispositions, motivational states, and aggregated motivational states) to predict self-reported and partner-reported instrumental behavior in couple relationships for different motive domains (communion and agency). We aim to replicate existing findings, and to extend the evidence in multiple ways, with the specific goals to: (1) quantify the contributions of motive dispositions as trait variables, of within-person motivational states, and of aggregated states as emergent between-person variables, (2) perform a direct and conceptual replication of previously published results (while having higher statistical power than the original study) showing that communal motivational states as well as aggregated states predict specific self-reported behavioral acts in the communion domain (Zygar et al., 2018a), (3) test the generalizability of these findings by extending them to the domain of agentic motivation, as well as to motive dispositions, and (4) extend these findings beyond self-reports of behavior by including partner-reported behavior.

Our preregistration is available at <https://osf.io/af4yb/>.¹ We preregistered hypotheses for goals (2) and (3), namely that all motivational variables are positively related to self-reported behavior that promotes incentive attainment, and negatively related to self-reported behavior that hinders it.

Method

As we assessed dyadic data which cannot be fully anonymized without losing the assignment of individuals to dyads, we published our data as a scientific use file (Zygar-Hoffmann et al., 2020). The data have previously been used by Pusch, Schönbrodt, Zygar-Hoffmann, and Hagemeyer (2020), Schönbrodt et al. (2019), as well as Zygar-Hoffmann

1) Other research questions were also preregistered, which are not covered in the current manuscript. The preregistration mentions several possible exploratory analyses; in this manuscript we focus on the confirmatory preregistered hypotheses, which are referred to as research goals 4A, 4B, 5A and 5B in the preregistration.

and Schönbrodt (2020). The results of these papers overlap with the analyses reported in the current paper only in descriptive statistics. For our analyses we used *R* (version 3.5.3, *R Core Team*, 2019)²; data, the pre-registration protocol, the complete study codebook, all analysis scripts, and further material, are available as [Supplementary Material](#).

Procedure

The study was advertised for mixed-gender couples through social networks, flyers and by couple counselors. Both partners were required to own an Android or iOS smartphone, which they have at hand for regular use. Upon registration, couples chose the time span in which the daily surveys should be sent, and blocked up to two hours per day as survey-free. Subsequently, each participant completed a preliminary questionnaire by themselves on their personal computer (set up with the survey software *formr*, Arslan & Tata, 2017; Arslan, Walther, & Tata, 2020), and received the ESM application “Tellmi” developed at LMU Munich. Upon login with a personalized code, the survey questions were introduced in a video. Participants were instructed not to talk about their answers with their partner, even though their survey timings were identical. The study started on the next Monday after login, with five daily surveys over four weeks. The first four surveys of each day were identical, and were scheduled semi-randomly across the chosen time-span. Participants were notified by their smartphone about an active survey, and had 45 minutes to complete it before it timed out. The last survey of each day had a different subset of questions and was designed as a daily diary: Individuals were instructed to complete it before going to bed, therefore it had a timeout of five hours. Answering the surveys took a median time of 2.70 minutes (interquartile range = 2.17 minutes). Participants received compensation (up to 190€ per couple) or course credit based on their compliance in the ESM part of the study and could opt in for a feedback report on their answers.

Sample

The sample size was constrained by the money available for compensation. Out of 576 participants (from 293 couples) who completed the preliminary questionnaire, ten individuals were not eligible for the ESM part, because their partners did not answer the preliminary questionnaire; six couples decided not to start with the ESM part; and 18 couples as well as eight individuals provided not enough ESM data (we preregistered to include only data from individuals who answered at least one third of all surveys). As a

² Using mainly the packages *dplyr* (Wickham, François, Henry, & Müller, 2018) for data handling, *lme4* (Bates, Mächler, Bolker, & Walker, 2015) and *lmerTest* (Kuznetsova, Brockhoff, & Christensen, 2017) for multilevel modeling, *stats* (R Core Team, 2019) for the Benjamini-Hochberg correction, *MBESS* (Kelley, 2018) for computing McDonald’s omega, and *MuMIn* (Barton, 2018) to determine the explained variance of the models. We wrote this reproducible manuscript with the package *papaja* (Aust & Barth, 2018).

result, a total of 510 participants from 259 couples (256 women, 254 men) provided usable ESM data (age in years: $M = 31.40$, $SD = 9.54$, range = 18 - 68; relationship duration in years: $M = 6.43$, $SD = 6.43$, range = 0.17 - 33.17). Most participants were childless (68%), not married (67%), not students (71%), but had a German Abitur (64%). This sample had a mean compliance of 88% with a standard deviation of 12%. We excluded some data on the survey level leading to a total of 60942 (at least partly) answered surveys.³

Measures

For a broad conceptual replication of the finding by Zygar et al. (2018a), we used several operationalizations for both predictors and outcomes. These differed in their abstractness and mode of assessment, see Table 1.⁴ The complete study codebook is available as [Supplementary Material](#).

Table 1

Operationalizations of Predictors and Outcomes

Variable	Characteristic		Motive domain			
	Abstractness	Assessment	Communion	Agency	Independence	Power
Predictors						
Explicit desires	relationship-specific	self-report ^a	×		×	
Explicit motives	global	self-report	×			×
Implicit motives	relationship-specific	indirect	×	×	×	×
Motivational states	relationship-specific	self-report	×	×	×	×
Mean motivation	relationship-specific	self-report	×	×	×	×
Outcomes						
Specific acts: Behavior Index	relationship-specific	self- and partner-report	×	×		×
Overall quality: IPC	relationship-specific	self- and partner-report	×	×		×
Time: Spent alone	global	self-report	×			
Time: Spent for own interests	global	self-report			×	

Note. IPC = interpersonal circumplex.

^aExplicit desires were also assessed via partner-reports, but only the self-reports were preregistered, and to avoid confounds with perception biases, only those are presented in the main text. However, the corresponding effects for partner-reported explicit desires are reported in Table S1 in the [Supplementary Materials](#).

3) First, a time zone transition of a couple caused their surveys to be wrongly activated during nighttime, thus all answers on these surveys were excluded ($n = 26$ surveys = 0.04%). Second, we preregistered to exclude answers that were discussed with the partner and where we expected bias due to the discussion ($n = 171$ surveys = 0.24%), and surveys that were answered in less than 60 seconds ($n = 1855$ surveys = 2.58%).

4) Tables S12 and S13 in the [Supplementary Materials](#) present the results for similar operationalizations available in the data of Zygar et al. (2018a, which is also published as a scientific use file, 2018b), and highlights differences to the results of the present study.

Preliminary Questionnaire: Motive Dispositions

Explicit social desires (relationship-specific) — The partner-specific explicit social desire for closeness and desire for being alone were each assessed as the average of eight items of the ABC scale of social desires (Hagemeyer et al., 2013). Statements like “In the presence of my partner, I feel relaxed.” (closeness) or “I like to be completely alone.” (being alone) were rated on subjective frequency scales ranging from 1 = *never* to 7 = *always*.

Explicit motives (global) — Global (i.e., not partner-specific) explicit motives of intimacy and power were assessed as the average of the six-item versions of the Unified-Motives-Scales (UMS-6; Schönbrodt & Gerstenberg, 2012). Participants rated statements and goals such as “Not being separated from the people I really care about” (intimacy) or “Opportunities to influence others” (power) on Likert scales (e.g., 0 = *not important to me* to 5 = *extremely important to me*).

Partner-related implicit motives (relationship-specific) — The Partner-Related Agency and Communion Test (PACT, Hagemeyer & Neyer, 2012) was used to assess implicit partner-related needs for communion (*pnCommunion*) and agency (*pnAgency*, including the subscales for *pnPower* and *pnIndependence*).⁵ In this projective measure, participants are prompted to write a short relationship story about eight ambiguous pictures based on three question prompts. For each story, a random pair of two out of five trained coders scored the stories for motive-related themes, and codings were averaged (see Table 2 for inter-coder-reliability). Ambiguous cases were discussed and resolved together with all coders. One participant answered less than six pictures, therefore this person’s PACT scores were coded as missing. After averaging the codings across all pictures to obtain raw motive scores, word count of the stories ($M = 334$, $SD = 149$) was partialled out with a robust regression approach, to account for a confounding with verbal fluency (correlations of word count and motive score were between $-.04$ and $.41$, see Hagemeyer & Neyer, 2012; Schönbrodt et al., 2020 for recommendations of this procedure).

ESM: Motivational States

For communion, independence and power motivation, we preregistered to compute scales of items that were assessed at each of the first four surveys of each day, when the respective event-level reliability exceeded $.40$. This was the case for all three motivational domains (see Schönbrodt et al., 2019 for an extensive reliability analysis of these items

5) The test allows *pnCommunion* and *pnAgency* to be differentiated by an approach and an avoidance component, representing the focus on seeking out incentives compared to avoiding disincentives. Table S1 in the Supplementary Materials presents the results when examining the effects of these components separately.

on different analysis levels). An agency motivation scale was computed as average across the independence and power items.⁶

Depending on whether the partner was present or not, the instruction for the items changed: If the partner was present, individuals were asked “right now, do you wish:” followed by a goal consistent with the motive domain. If the partner was not present, individuals were asked to imagine they had free time to spend with their partner and to indicate what their motivation would be in this situation. This instruction aimed to reduce situational effects undermining the report of a motivation, such as when certain desires seemed impractical or difficult to realize. Participants were asked to report on their momentary desires “to share experiences, thoughts or feelings with [their] partner” and “to receive emotional affection from [their] partner” (both communion) as well as “to act and decide independent of [their] partner” and to solitarily pursue [their] own interests” (both independence). Further assessed desires were “to influence the feelings or behavior of [their] partner in any way”, “that there is an exchange with [their] partner, which is about [them], where [they] are the center of attention”, and “that [their] partner fits in with [their] wishes” (all power). Examples of correspondent behavior and an optional tooltip providing more descriptions were available for each desire (see codebook). These motivational states were answered on the same Likert scale, ranging from -1 = *no, that would bother me right now* over 0 = *no, I don't need this right now*, 1 = *yes, but only weakly*, 2 = *yes, moderately*, 3 = *yes, strongly*, to 4 = *yes, very strongly*.

We further had two additional items pertaining to communal motivation more generally, which we preregistered not to include in the communion scale, as they have a slightly different focus: First, the question “How emotionally close would you want to be to your partner at the moment?” (termed “closeness motivation”) was answered on a discrete seven-point slider, with each position depicting one picture of the Inclusion of Other in the Self Scale (Aron, Aron, & Smollan, 1992). The first position was labeled *distance* and the last position *maximal closeness*. Second, individuals were prompted to imagine how they would like to spend the next two hours, if they could use the time as they wished (termed “time-spending motivation”), with answers on a continuous slider from 0 = *Entirely without your partner (as me-time)* to 10 = *Entirely with your partner (as shared-time)*.⁷ We preregistered our hypotheses for the communion scale and for these two single items separately, and to tackle the problem of multiple testing by considering all analyses in a control of the false-discovery-rate.⁸

6) We consider agency motivation a more formative construct, therefore we preregistered to compute the scale of power and independence items irrespective of the internal consistency, which was below .40, see Schönbrodt et al. (2019).

7) This item was the only state motivation item that was also assessed in the evening survey, with the variation that individuals were asked how they would like to spend their time *the next day* instead of in the next two hours.

ESM: Behavior Reports

Behavior reports were assessed at each of the five daily surveys. For the first survey each day, individuals were instructed to refer to what happened since the morning, for all other surveys they should refer to the time since they answered the last survey.

Occurrence of specific behavioral acts: Communion and Agency Behavior Index

— A list of twenty specific communal and agentic behaviors was presented to the participants in the form of a checklist (across different screens). Participants were instructed to check a box if the associated behavior had occurred. When the described behavior was reciprocal (e.g., “Intimate or cordial activity, conversation or discussion”) rather than unidirectional (e.g., “You elicited strong positive or negative feelings in your partner”), participants were further asked who initiated the behavior. The list of behaviors was rated by the authors a priori as instrumental or obstructive for the attainment of communal and agentic relationship goals and according weights were preregistered (-1 = *very obstructive*, -0.5 = *a little obstructive*, 0 = *irrelevant*, 0.5 = *a little instrumental*, 1 = *very instrumental*). To calculate communion and agency behavioral indices, the checked behaviors at each survey were multiplied by their assigned weights and the resulting scores were summed up, representing the amount of obstructive or instrumental behavior that was shown for each motive domain in each time span (ranging from -2.5 to 6.5 for the communion index and from -2.0 to 8.0 for the agency index; see codebook for the full list of behaviors with their corresponding weights and slight differences of these indices to the ones used by Zygar et al., 2018a).

Overall evaluation of behavior quality: IPC kindness and IPC dominance — A grid representing the broad interpersonal dimensions of communion (on the x-axis) and agency (on the y-axis) was presented twice per assessment: Participants should indicate on these interpersonal circumplex grids (IPC; see Horowitz et al., 2006; Wiggins, 1979) how they behaved towards their partner and how their partner behaved towards them. They were instructed to point to the position on the grid that represented both the amount of kindness (from 0 = *rejecting* to 1 = *friendly*) and the amount of dominance (from 0 = *unobtrusive* to 1 = *dominant*). Examples of combinations of both dimensions were presented in the edges of the grid (e.g., *protecting* for a highly kind and dominant behavior).

Quality of time: Time spent alone and for own interests — Participants answered two questions on how they spent their time: “How much time did you spend alone

8) As reported in Schönbrodt et al. (2019), computing a scale with all four communal motivational items is a viable alternative. We refer readers who are interested in the results of such a scale to Table S2 in the [Supplementary Materials](#).

(without mentionable interactions with your partner or others)?”, and “How much time did you spend to pursue your own interests, e.g., hobbies?”. Both items were answered on a continuous slider ranging from 0 = *no time at all*, over 5.5 = *half of the time* to 10 = *all the time*.

Covariates: Time Spent With the Partner and Amount of Duties

We assessed potential covariates at the within-person level that impose rather strong restrictions or upper limits on the ability to show any partner-related behavior, which we control for in our models. At each ESM survey, participants were asked about the time they had spent with their partner since the last survey or since the morning: “How much time did you actually actively spend together with your partner (technically mediated as well)?”. Responses were given on a continuous slider ranging from 0 = *no time at all*, over 5.5 = *half of the time* to 10 = *all the time*. Additionally, at the first four ESM surveys, participants reported the amount of workload they had upcoming: The question “How many tasks are on your to-do-list for the next two hours (occupationally as well as privately)?” was answered on a continuous slider from 0 = *no tasks* to 10 = *many tasks*.

Data Analysis Plan

All of the following decisions on the analysis plan were preregistered, unless stated otherwise. Our data are structured as surveys nested in individuals nested in couples.⁹ To tackle this three-level structure with only two data points on the upper level, we estimate double-intercept models (Bolger & Laurenceau, 2013) with two levels for all analyses: These models specify the survey answers on Level 1 and couples on Level 2, but include separate intercepts for men and women as fixed and random effects to account for individual mean-level differences (two dummy variables each, with 0 = no man/woman, and 1 = man/woman).¹⁰

We z-standardized all continuous variables on the grand-mean and grand-standard deviations across the whole sample (before centering or aggregating them further in the case of states). Then, we regressed the z-standardized self-reported behavior on the different z-standardized motivational variables first in *separate* models, and adopted analogous models for partner-reports as exploratory outcomes. That is, each of these models (termed “reduced models”) contained only one of the assessed motivational variables as predictor. An exception to this procedure was applied to the models with

9) An additional day-level could be specified. We exploratorily reran our analyses including such an additional level as a robustness check. The results are presented in Tables S6 and S7 in the [Supplementary Materials](#): There was only little variance at the day-level and none of our results substantially changed.

10) A viable alternative would be to treat partners as either fully indistinguishable, or fully distinguishable. In the [Supplementary Materials](#) we present the model formulas and results for these alternative models (see pp. 13ff and Tables S7-S11).

motivational states as predictors (assessed at surveys prior to the outcomes¹¹): We person-mean centered these state variables after *z*-standardization and additionally included the aggregated states in the model (“centered within context with reintroduction of the subtracted means at Level 2” = CWCM method; Zhang, Zyphur, & Preacher, 2009, p. 709). This allows disentangling within-subject effects by motivational states from between-subject effects by aggregated states.¹² A zero on the motivational state variable can thus be interpreted as an individual’s typical motivation, with a positive deviation from zero indicating that an individual is more motivated than what is typical for them, and a negative deviation that they are less motivated than usual.

Our behavior-related outcome variables are assessed on Level 1 in all analyses, and we included the following two covariates for such models: A variable representing the survey index (0 = first survey) to control for potential effects on the outcomes over the course of the study (see Bolger & Laurenceau, 2013), and a dummy variable indicating whether the survey was on a weekday (= 0) or during the weekend (= 1). When predicting the outcomes by motivational states, we included the random effect of the motivational state (Barr, Levy, Scheepers, & Tily, 2013), and added the following covariates on Level 1: a) If the outcome was one of the behavior indices, or a dimension of the interpersonal circumplex, then we included the *z*-standardized time spent with the partner as a covariate to account for the amount of time individuals could behave towards their partner; b) If the outcome was the time individuals spent alone or for own interests, then we added the *z*-standardized amount of duties as covariate, to account for situational constraints influencing how individuals spend their time. Finally, for all analyses with one dimension of the interpersonal circumplex as outcome, regardless of the predictor being on Level 1 or Level 2, we added the *z*-standardized other dimension as covariate to account for a potential confounding of the answers on the grid.

Complementary to the effects of single motivational variables in the reduced models, we exploratorily calculated models that included all motivational variables simultaneously (termed “full models”), to examine which predictors have incremental effects. When mixed preregistered and exploratory analyses are presented together (see Table 5 and Table 6), the results of preregistered analyses are printed in black and one-sided *p*-values

11) That is, motivation at time-point t_i predicted the report given at time-point t_{i+1} about the behavior that happened since t_i . Answers were therefore only included in the analyses, when both surveys t_i and t_{i+1} were completed. Outcomes assessed in morning surveys were excluded as the prior t_i time-point would refer to the evening survey of the last day and overnight effects might bias the results.

12) In the preregistration we only specified this CWCM method for analyzing the effect of motivational states. For the effect of aggregated states, we did not mention this procedure. However, a model containing only the aggregated states as predictor disregards confounding with Level 1 variation. Therefore, models with aggregated states, but without the state motivation are presented only in Table S1 in the [Supplementary Materials](#). For CWCM results shown in Table 5 and Table 6, it is highlighted that the analyses for the aggregated motivation as predictors do not follow the preregistered analysis plan.

are reported, which are printed in bold when they were significant after controlling the false-discovery rate at $\alpha = .05$ with the Benjamini-Hochberg correction (Benjamini & Hochberg, 1995).¹³ Results of exploratory analyses are printed in gray, with two-sided p -values.¹⁴

Results

Descriptives

In Table 2, means and standard deviations of motivational variables on the between-person level are presented separately for women and men. Regressing these variables on gender in a multilevel model showed that women had significantly higher means than men on the explicit intimacy motive, $t(255) = 5.69$, $p < .001$, on raw pnCommunion motive scores, $t(258) = 3.46$, $p = .001$, on mean communion motivation, $t(253) = 5.14$, $p < .001$, and on mean power motivation, $t(254) = 2.48$, $p = .014$. However, on average, women had a significantly lower explicit power motive than men, $t(255) = -4.95$, $p < .001$. All other comparisons were not significant ($ps > .094$).

The correlations in Table 3 show convergence of the motivational variables on the between-person level. Corresponding implicit and explicit motives correlate with a maximum of $r = .28$. The maximum correlation between implicit motives and aggregated states was of similar size with $r = .29$. Overall, explicit motives and aggregated motivational states correlated more strongly, with a maximum observed $r = .50$. Intra-dyad correlations were significant for both explicit communion motives, but not for the other motive dispositions. Regarding aggregated motivational states, intra-dyad correlations were substantial for all motive domains (with rs ranging from .25-.53).

13) The subset of analyses to control the FDR for was determined as follows: When multiple models were calculated with one type of motivational variable (e.g., implicit motives, explicit motives, state motivation, or aggregated motivation) pertaining to one motive domain (e.g., communion or agency) for the same or a similar outcome (the behavior index and the IPC measure were regarded as similar), then these were treated as one subset of models for which a control of the FDR was indicated. For example, for implicit motives in the domain of agency four models were calculated in total, for which the FDR was controlled: Two models with pnAgency (one model predicting the agency behavior index and one model predicting the IPC measure), and similarly two models with pnPower.

14) We preregistered to consider exploratory effects noteworthy when the p -value is smaller than $\alpha = .01$. However, the exploratory analyses reported in this paper are direct extensions of our preregistered analyses to partner-reports, to similar operationalizations or to models with more covariates. Compared to pure exploration of the data for noteworthy patterns, we deem these analyses as theoretically more founded. We therefore discuss also results with a two-sided p -value smaller than .05. However, as we report exact p -values, readers can regard exploratory results with a p -value between .01 and .05 as less trustworthy by themselves.

Table 2
Descriptive Statistics of Between-Person Motivational Variables

Variable	Rel	Range	Women		Men	
			M	SD	M	SD
Explicit motives						
Explicit desire: Closeness	.85	1.4 to 7	6.03	0.85	6.03	0.66
Explicit desire: Being alone	.89	1 to 6.9	4.17	1.02	4.23	0.94
Explicit intimacy motive	.70	2.2 to 6	4.92	0.60	4.63	0.70
Explicit power motive	.87	1 to 6	3.16	0.95	3.57	1.03
Implicit motives						
pnCommunion	.96	0 to 10	5.55	2.02	4.95	2.04
pnAgency	.93	0 to 10.5	5.07	2.00	4.79	1.94
pnIndependence	.93	0 to 6.5	1.69	1.23	1.56	1.20
pnPower	.90	0 to 5.5	1.12	1.07	1.24	1.19
Aggregated motivational states						
Mean communion motivation	.97	0 to 4	2.02	0.80	1.75	0.76
Mean closeness motivation	.97	1.3 to 7	4.85	1.28	4.83	1.29
Mean time-spending motivation	.96	1.1 to 10	7.08	1.90	6.92	1.88
Mean agency motivation	.98	-0.6 to 2.6	1.00	0.57	0.94	0.53
Mean independence motivation	.97	-0.7 to 3.2	1.09	0.68	1.13	0.66
Mean power motivation	.98	-0.6 to 2.8	0.94	0.69	0.82	0.59

Note. N = 509-510 individuals in 259 couples (255-256 women, 254 men). Rel = Reliability; McDonald's omega total for explicit measures, intra-class-correlation ICC(1,2) of content codings for implicit measures, between-person reliability estimate based on generalizability theory and an extension of the reliability model by Shrout and Lane (2012) described in Schönbrodt et al. (2019) for aggregated state measures. pn = partner-related need. M and SD of implicit motives refer to raw motive scores (number of motive categories).

Table 3
Correlations of Between-Person Motivational Variables

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Explicit desire: Closeness	.28	-.19	.48	-.05	.20	-.18	-.12	-.11	.32	.47	.38	-.08	-.16	.00
2. Explicit desire: Being alone	-.32	.12	-.36	-.12	.05	.00	.21	-.23	-.06	-.13	-.27	.06	.20	-.06
3. Explicit intimacy motive	.38	-.40	.19	.12	.24	-.13	-.14	-.04	.23	.39	.39	-.04	-.14	.04
4. Explicit power motive	-.08	.02	-.04	.11	-.02	.01	-.04	.11	-.03	-.00	.05	.15	.13	.12
5. pnCommunion	.28	-.06	.17	.00	.06	-.40	-.24	-.23	.13	.19	.08	-.01	-.10	.05
6. pnAgency	-.24	-.02	-.06	.02	-.49	.07	.53	.42	-.00	-.18	-.06	.12	.16	.05
7. pnIndependence	-.07	.14	-.08	.04	-.27	.57	-.05	-.14	-.08	-.20	-.14	.03	.14	-.05
8. pnPower	-.11	-.08	-.03	.06	-.26	.39	-.07	-.01	-.03	-.04	.06	.01	-.02	.03
9. Mean communion motivation	.33	-.18	.31	-.02	.19	-.00	-.09	.03	.44	.58	.54	.36	.10	.48
10. Mean closeness motivation	.50	-.18	.36	-.06	.29	-.21	-.14	-.15	.63	.50	.67	.01	-.17	.14
11. Mean time-spending motivation	.47	-.40	.40	-.04	.25	-.18	-.20	-.01	.56	.68	.53	-.08	-.34	.12
12. Mean agency motivation	-.14	.10	-.02	.16	-.03	.16	.05	.09	.39	.03	-.11	.29	.81	.90
13. Mean independence motivation	-.26	.31	-.22	.14	-.11	.15	.10	.08	-.00	-.26	-.46	.74	.30	.47
14. Mean power motivation	-.01	-.07	.12	.13	.03	.12	-.00	.07	.54	.21	.15	.90	.36	.25

Note. *N* = 509-510 individuals in 259 couples (255-256 women, 254 men), pn = partner-related need (implicit motive). Correlations below the diagonal refer to associations between women, correlations above the diagonal refer to associations between men, correlations on the diagonal refer to dyadic associations. Correlations of implicit motives were calculated with motive scores corrected for word count. Correlations with *p* < .05 are printed in bold italic, those with *p* < .01 are printed in bold.

In Table 4, the intra-class-correlations of state measures show that there is considerable variance of the predictor and outcome variables on both analysis levels.

Table 4

Descriptive Statistics and Intra-Class-Correlations of Experience Sampling Measures

Variable	Average of person means (SD)	Average of person SDs (SD)	Women		Men	
			Between-Person Variance (ICC in %)	Within-Person + Error Variance (1-ICC in %)	Between-Person Variance (ICC in %)	Within-Person + Error Variance (1-ICC in %)
State predictors						
Communion motivation	1.88 (0.79)	0.85 (0.28)	44.19	55.81	41.47	58.53
Closeness motivation	4.84 (1.28)	1.04 (0.43)	55.97	44.03	56.48	43.52
Time-spending motivation	7.00 (1.89)	2.18 (0.96)	38.59	61.41	38.20	61.80
Agency motivation	0.97 (0.55)	0.50 (0.19)	53.09	46.91	49.38	50.62
Independence motivation	1.11 (0.67)	0.78 (0.28)	39.53	60.47	38.13	61.87
Power motivation	0.88 (0.64)	0.62 (0.26)	50.60	49.40	42.72	57.28
Outcomes						
Communion Behavior Index	1.79 (0.89)	1.22 (0.31)	31.36	68.64	33.96	66.04
Agency Behavior Index	0.77 (0.54)	0.89 (0.30)	20.39	79.61	27.40	72.60
IPC kindness	0.74 (0.11)	0.13 (0.04)	36.42	63.58	38.60	61.40
IPC dominance	0.54 (0.08)	0.12 (0.05)	29.16	70.84	25.71	74.29
Time spent alone	3.00 (1.38)	2.95 (0.70)	15.60	84.40	17.01	82.99
Time spent for interests	2.72 (1.64)	2.57 (0.80)	25.99	74.01	26.67	73.33
Covariates						
Time spent with partner	4.39 (1.45)	3.51 (0.67)	12.51	87.49	14.12	85.88
Amount of duties	4.40 (1.62)	3.17 (0.78)	20.49	79.51	17.81	82.19

Note. $N = 510$ individuals in 259 couples (256 women, 254 men). Average of person means = Mean of the intra-individual (person) means, with the standard deviation of these (person) means from the averaged person mean in parentheses; Average of person SDs = Mean of the intra-individual (person) standard deviations, with the standard deviation of these (person) SDs from the averaged person SD in parentheses; ICC = Intra-Class-Correlation; IPC = Interpersonal Circumplex.

Regarding the outcomes, the variance on the between-person level was generally lower than the variance on the within-person level: Time spent alone had the lowest between-person variance, and kindness behavior had the highest between-person variance. It has to be noted that the variance on the within-person level is a mix of systematic and error variance. As our outcome measures are formative indices or single item measures, their reliability is unknown. However, even if we assume low reliabilities there is still a substantial amount of true within-person variance. It is therefore meaningful to proceed with comparing within- and between-level predictors to explain the total variance observed in the behavioral outcomes.

Prediction of Behavior and Time Reports in Reduced Models

The results for separate models for the motivational variables as predictors (see analysis plan) are shown in [Table 5](#) and [Table 6](#) in the column labeled “Reduced Models”.

Communion

All state and aggregated communal motivation measures predicted the communal behavior index and the kindness evaluation, irrespective of the report stemming from the individuals themselves or their partners. The amount of time individuals spent alone was only predicted by the two more outcome-specific closeness and time spending motivation items, but not by the communion motivation scale.

The two explicit dispositional measures (intimacy motive and desire for closeness) had similar effects. For all self-reports and the partner-reported kindness evaluation, both measures were significantly predictive. Additionally, the more global explicit intimacy motive significantly predicted the partner-reported communal behavior index. The implicit dispositional measure *pnCommunion* significantly predicted the self-reported kindness evaluation and the time spent alone, but neither the self-reported communal behavior index nor any partner-report.

Agency: Power and Independence

State as well as aggregated power and agency motivation were significantly predictive for both the self- and the partner-reported agency behavior index and for self-reported (but not partner-reported) IPC dominance evaluation.¹⁵ The explicit power motive on the other hand was predictive for both the self- and partner-reported dominance evaluation, but only for the self-reported agency behavior index. Regarding implicit motives, *pnPower* only predicted the conceptually closer dominance self-report significantly, but not the partner-report or any report of the behavior index; *pnAgency* yielded no significant predictive effects on any outcome.

Moreover, both state and aggregated independence motivation predicted more time spent for own interests, but neither explicit nor implicit motives were significant predictors.¹⁶

15) For the agentic power domain, we were inconsistent in our hypotheses across the different analysis levels regarding whether more general agentic motivation or specifically power motivation is assumed to predict the outcomes: On Level 1 as a state, we preregistered agentic motivation as a predictor, but on Level 2 as an aggregated measure we preregistered power motivation. Therefore, we report the results of both scales as predictors on both analysis levels. In general, the effects were of similar sizes, with agency motivation on Level 2 performing slightly better in predicting the agency behavior index.

16) Compared to time spent alone, which might be more strongly influenced by external demands (e.g., when one is usually alone at work), we had a priori considered time spent for own interests as more meaningful than the behavioral outcome of independence motivation. However, as spending time completely for oneself also facilitates the

Comparison of Effect Sizes

We descriptively compared the standardized regression coefficients from the between-person effects in the reduced models, that is, of the aggregated states and the motive dispositions.¹⁷ As a general pattern across motive domains, outcomes, and for both self- and partner-reports, the aggregated motivational states had the strongest effects in the majority of cases. They were followed by the effect sizes of the explicit motives and concluded with the lowest effects by the implicit motives.

Table 5 and Table 6 also show the increase in explained variance (see “ ΔR^2 ”) after adding the fixed effects of a single motivational variable to baseline models (marginal R^2 , Johnson, 2014; Nakagawa & Schielzeth, 2013). We defined baseline models as models with the same dyadic structure and covariates, but without the respective motivational variables.¹⁸ This comparison of the ΔR^2 allows taking into account the variance that was additionally explained by the Level 1 motivational states. In general, the discussed pattern of the standardized beta coefficient sizes for between-person effects is mirrored in the explained variance. Overall, the magnitude of the added explained variances was higher in the communion domain (maximum observed $\Delta R^2 = 9.3\%$) compared to the agency domain (maximum observed $\Delta R^2 = 1.1\%$). On the within-person level, the motivational states explained mixed amounts of total outcome variances up to 1.8% ¹⁹, rarely higher than the variance explained by aggregated states, and often between the range of explicit and implicit motives.

Incremental Contributions in Full Models

The results for models that include all motivational variables as predictors (see analysis plan) are shown in Table 5 and Table 6 in the column labeled “Full Models”.²⁰ Irrespective of the motive domain and the source of the report, an incremental contribution of

experience of independence, Table S3 in the [Supplementary Materials](#) shows the results of independence motivational variables predicting the time spent alone.

17) We do not include the state motivation in this comparison, as it explains within-person variance rather than between-person variance, thus having a different interpretation of the effect size.

18) Hence, for all but the CWCM models, these baseline models included only the survey index and a weekend dummy variable as predictors. CWCM baseline models included further covariates (see analysis plan) and, additionally, the motivational variable on the level that is not under consideration (e.g., when examining the incremental effect of motivational states, then the aggregated motivation is already included in the baseline model).

19) In comparison, the baseline models for motivational states that included situational constraints on Level 1 explained up to 10.4% of variance.

20) In our analyses, incremental effects are only meaningful for predictors on the between-person level, as motivational states are the only predictors on the within-person level. For those variables, incremental effects could only be observed beyond other within-person variables. The results of motivational states in the full models therefore generally mirror the effects found in the reduced models. Any differences should be due to listwise deletion generated by missing values on the other variables.

aggregated state motivation beyond the other measures could be observed for almost all outcomes for which these variables were already predictive in the reduced models. This was also the case for explicit and implicit power motives: If they were predictive of the agency behavior index or dominant behavior reports when they were the only predictors, they were still significant when all other motivational variables were included in the models as well.

For communion, some variables predicted outcomes significantly in the reduced models, but did not provide significant incremental contributions in the full models: This was the case for pnCommunion, which did not provide any incremental contributions beyond the other motivational variables. Further, the explicit intimacy motive only had an incremental effect for the prediction of self-reported kindness, whereas in the reduced models it was a significant predictor for every outcome, irrespective of self- or partner-report. For time spent alone as an outcome, no between-person motivational variable had a significant incremental effect, whereas almost all variables were significant predictors in the reduced models.

Table 5
Prediction of Communion Behavior and Time Spent Alone by Different Communal Motivational Variables

Variable	Self-Reported Behavior: Reduced Model / Full Model		Partner-Reported Behavior: Reduced Model / Full Model	
	$\beta \pm$ Range of 95% CI	p ΔR^2	$\beta \pm$ Range of 95% CI	p ΔR^2
DV: Communion Behavior Index				
State communion motivation CWCM	0.12 ± 0.02 / 0.12 ± 0.02	<.001 ^a / <.001	0.08 ± 0.02 / 0.08 ± 0.02	<.001 / <.001
Mean communion motivation CWCM	0.31 ± 0.07 / 0.27 ± 0.07	<.001 ^a / <.001	0.13 ± 0.07 / 0.13 ± 0.07	<.001 / .001
State closeness motivation CWCM	0.13 ± 0.02 / 0.13 ± 0.02	<.001 ^a / <.001	0.12 ± 0.02 / 0.12 ± 0.02	<.001 / <.001
Mean closeness motivation CWCM	0.20 ± 0.06 / 0.14 ± 0.06	<.001 ^a / <.001	0.16 ± 0.06 / 0.16 ± 0.06	<.001 / <.001
State time-spending motivation CWCM	0.11 ± 0.02 / 0.11 ± 0.02	<.001 ^a / <.001	0.08 ± 0.02 / 0.08 ± 0.02	<.001 / <.001
Mean time-spending motivation CWCM	0.17 ± 0.08 / 0.08 ± 0.08	<.001 / <.056	0.14 ± 0.08 / 0.13 ± 0.08	<.001 / .002
Explicit desire: Closeness	0.14 ± 0.04 / 0.08 ± 0.04	<.001 ^a / .001	0.03 ± 0.05 / -0.01 ± 0.05	.205 / .692
Explicit intimacy motive	0.07 ± 0.05 / 0.01 ± 0.05	.001^a / .811	0.05 ± 0.04 / 0.04 ± 0.04	.045 / .166
pnCommunion	0.03 ± 0.04 / 0.00 ± 0.04	.100 ^a / .907	0.02 ± 0.04 / 0.03 ± 0.04	.252 / .170
DV: IPC kindness				
State communion motivation CWCM	0.12 ± 0.02 / 0.12 ± 0.02	<.001 ^a / <.001	0.07 ± 0.02 / 0.07 ± 0.02	<.001 / <.001
Mean communion motivation CWCM	0.30 ± 0.07 / 0.21 ± 0.07	<.001 ^a / <.001	0.14 ± 0.08 / 0.12 ± 0.08	<.001 / .005
State closeness motivation CWCM	0.22 ± 0.02 / 0.21 ± 0.02	<.001 ^a / <.001	0.14 ± 0.02 / 0.14 ± 0.02	<.001 / <.001
Mean closeness motivation CWCM	0.37 ± 0.06 / 0.29 ± 0.06	<.001 ^a / <.001	0.21 ± 0.07 / 0.18 ± 0.07	<.001 / <.001
State time-spending motivation CWCM	0.16 ± 0.02 / 0.16 ± 0.02	<.001 ^a / <.001	0.10 ± 0.02 / 0.10 ± 0.02	<.001 / <.001
Mean time-spending motivation CWCM	0.37 ± 0.08 / 0.26 ± 0.08	<.001 ^a / <.001	0.23 ± 0.08 / 0.19 ± 0.08	<.001 / <.001
Explicit desire: Closeness	0.22 ± 0.05 / 0.14 ± 0.05	<.001 ^a / <.001	0.10 ± 0.05 / 0.08 ± 0.05	<.001 / .011
Explicit intimacy motive	0.14 ± 0.05 / 0.05 ± 0.05	<.001 ^a / .038	0.05 ± 0.05 / 0.03 ± 0.05	.033 / .256
pnCommunion	0.05 ± 0.05 / 0.00 ± 0.05	.020^a / .864	0.01 ± 0.04 / 0.00 ± 0.04	.597 / .977
DV: Time spent alone				
State communion motivation CWCM	-0.01 ± 0.02 / -0.01 ± 0.02	.208 ^a / .386		
Mean communion motivation CWCM	-0.01 ± 0.06 / 0.02 ± 0.06	.685 / .553		
State closeness motivation CWCM	-0.05 ± 0.02 / -0.05 ± 0.02	<.001 ^a / <.001		
Mean closeness motivation CWCM	-0.07 ± 0.05 / -0.03 ± 0.05	.009 / .227		
State time-spending motivation CWCM	-0.10 ± 0.02 / -0.10 ± 0.02	<.001 ^a / <.001		
Mean time-spending motivation CWCM	-0.08 ± 0.06 / -0.04 ± 0.06	.010 / .251		
Explicit desire: Closeness	-0.05 ± 0.04 / -0.04 ± 0.04	.005^a / .057		
Explicit intimacy motive	-0.04 ± 0.04 / -0.02 ± 0.04	.023^a / .334		
pnCommunion	-0.03 ± 0.03 / -0.02 ± 0.03	.038^a / .274		

Note. N = 32682-60809 surveys from 501-510 individuals from 251-259 couples. Reduced model = model with covariates and only one motivational variable as predictor (exception: CWCM = model including both Level 1 state variable (person-mean centered) and Level 2 aggregated state variable). Full model = model with covariates and all motivational variables of a domain as predictors (exception: to avoid collinearity problems only communion motivation (state/aggregated), but not closeness or time-spending motivation (states/aggregated) is included in the full models of motive dispositions; vice versa closeness and time-spending motivation (states/aggregated) are *only* included in their respective full models). CI = Confidence Interval; ΔR^2 = additional total outcome variance explained by the motivational variable as fixed effect compared to a model containing only the covariates of the reduced model. DV = dependent variable; pnCommunion =

partner-related need for communion (implicit motive); IPC = interpersonal circumplex. Covariates included in the models, but not shown: weekend dummy-variable, survey index; additional covariate for the IPC as DV: the other IPC dimension 'dominance'; additional covariate for CWC models and behavior as DV: time spent with partner; additional covariate for CWC models with time as DV: amount of duties. Preregistered analyses are printed in black, and additionally bold if the results are significant after controlling the false-discovery-rate at $\alpha = .05$. Other analyses are printed in gray, and additionally bold if the results are significant at $\alpha = .05$.

^aone-sided *p*-value.

Table 6
Prediction of Agentic Behavior and Time Spent for Own Interests by Different Agentic Motivational Variables

Variable	Self-Reported Behavior: Reduced Model / Full Model		Partner-Reported Behavior: Reduced Model / Full Model	
	$\beta \pm$ Range of 95% CI	p	ΔR^2	p
DV: Agency Behavior Index				
State agency motivation CWCM	0.03 ± 0.02 / 0.03 ± 0.02	< .001 ^a / .003	0.1%	0.02 ± 0.02 / 0.02 ± 0.02
Mean agency motivation CWCM	0.20 ± 0.07 / 0.19 ± 0.07	< .001 / < .001	1.0%	0.12 ± 0.08 / 0.11 ± 0.08
State power motivation CWCM	0.04 ± 0.02 / 0.04 ± 0.02	< .001 / < .001	0.0%	0.02 ± 0.02 / 0.02 ± 0.02
Mean power motivation CWCM	0.15 ± 0.06 / 0.14 ± 0.06	< .001 / < .001	0.9%	0.09 ± 0.06 / 0.09 ± 0.06
Explicit power motive	0.05 ± 0.04 / 0.04 ± 0.04	.011^a / .037	0.2%	0.03 ± 0.04 / 0.03 ± 0.04
pnAgency	-0.02 ± 0.04 / -0.02 ± 0.04	.888 ^a / .195	0.1%	-0.01 ± 0.04 / -0.02 ± 0.04
pnPower	0.02 ± 0.04 / 0.02 ± 0.04	.104 ^a / .380	0.1%	-0.01 ± 0.04 / 0.00 ± 0.04
DV: IPC dominance				
State agency motivation CWCM	0.02 ± 0.02 / 0.02 ± 0.02	.030^a / .056	0.0%	0.00 ± 0.02 / 0.00 ± 0.02
Mean agency motivation CWCM	0.12 ± 0.08 / 0.10 ± 0.08	.004 / .016	0.4%	0.03 ± 0.08 / 0.00 ± 0.08
State power motivation CWCM	0.02 ± 0.02 / 0.02 ± 0.02	.031 / .031	-0.1%	0.00 ± 0.02 / 0.00 ± 0.02
Mean power motivation CWCM	0.12 ± 0.06 / 0.11 ± 0.06	< .001 / .001	0.7%	0.07 ± 0.07 / 0.05 ± 0.07
Explicit power motive	0.07 ± 0.04 / 0.07 ± 0.04	.001^a / .004	0.5%	0.07 ± 0.05 / 0.07 ± 0.05
pnAgency	-0.01 ± 0.04 / -0.01 ± 0.04	.602 ^a / .523	0.0%	0.02 ± 0.04 / 0.02 ± 0.04
pnPower	0.05 ± 0.04 / 0.04 ± 0.04	.009^a / .046	0.2%	0.04 ± 0.04 / 0.04 ± 0.04
DV: Time spent for own interests				
State independence motivation CWCM	0.09 ± 0.02 / 0.09 ± 0.02	< .001 ^a / < .001	0.7%	0.09 / .878
Mean independence motivation CWCM	0.10 ± 0.07 / 0.09 ± 0.07	.005 / .014	0.3%	.486 / .921
Explicit desire: Being alone	0.03 ± 0.04 / 0.03 ± 0.04	.066 ^a / .180	0.1%	.640 / .051
pnAgency	-0.02 ± 0.04 / -0.03 ± 0.04	.771 ^a / .130	0.0%	.054 / .158
pnIndependence	-0.01 ± 0.04 / -0.01 ± 0.04	.643 ^a / .468	0.0%	.001 / .002

Note. N = 32664-60809 observations in 501-510 individuals from 251-259 couples. Reduced model = model with covariates and only one motivational variable as predictor (exception: CWCM = model including both Level 1 state variable (person-mean centered) and Level 2 aggregated state variable). Full model = model with

covariates and all motivational variables of a domain as predictors (exception: to avoid collinearity problems pnIndependence and pnPower are *not* included in the full models of pnAgency, and power motivation (state/aggregated) is *not* included in the full models of agency motivation; vice versa pnAgency is *only* included in the full models of pnAgency, and agency motivation (state/aggregated) is *only* included in the full models of agency motivation). CI = Confidence Interval; ΔR^2 = additional total outcome variance explained by the motivational variable as fixed effect compared to a model containing only the covariates of the reduced model. DV = dependent variable; IPC = interpersonal circumplex; pn = partner-related need (implicit motive). Covariates included in the models, but not shown: weekend dummy-variable, survey index; additional covariate for the IPC as DV: the other IPC dimension 'kindness'; additional covariate for CWCM models with time as DV: amount of duties; additional covariate for CWCM models and behavior as DV: time spent with partner. Preregistered analyses are printed in black, and additionally bold if the results are significant after controlling the false-discovery-rate at $\alpha = .05$. Other analyses are printed in gray, and additionally bold if the results are significant at $\alpha = .05$.

^aone-sided *p*-value.

Discussion

A central goal of the current study was the comparison of motivational variables as predictors of behavior reports in intimate relationships. We approached this comparison from various perspectives: (a) We combined a within-person and a between-person perspective on motivational variables, enabling to predict different variance sources of the behavior reports; (b) We looked at different motive domains, specifically communal, independence and power motivational variables predicting corresponding behavioral outcomes; (c) We included more general and more specific behavioral reports; (d) We examined partner-reports next to self-reports of the behavioral outcomes; (e) We compared bivariate to incremental contributions.

To begin with, our results directly and conceptually replicate and extend previous research, which demonstrated that between-person differences in motivational variables predict average behavioral levels (e.g., Craig et al., 1994; Hagemeyer et al., 2015; McAdams & Constantian, 1983; McAdams et al., 1984a; Zygar et al., 2018a): For different kinds of behaviors, persons with higher average levels of motivation and in most cases those with stronger motive dispositions self-reported on average more instrumental behavior. This corroborates a central assumption of motive disposition theory for the domain of intimate relationships: Motives as inter-individual differences select and energize corresponding instrumental behavior. From a functional perspective, however, a crucial test of the theory lies on the within-person level of motivational states. In this regard, our results directly replicate a prior study showing that communal motivational states predict subsequent specific communal behavioral acts as self-reports (Zygar et al., 2018a). The present study extended this finding conceptually with other operationalizations of communal motivation, and with other outcomes, which were additionally partner-reported. Finally, our results support the idea of a process in which motivational states precede instrumental behavior likewise for the independence and power motive domains in intimate relationships.

The Special Case of Motivational States

The effects of state motivation on a within-person level were generalizable and robust, in terms of being consistent across outcomes, motive domains, source of the behavior reports (self vs. partner) and modeling strategy (see [Supplementary Materials](#)): The occurrence of a motivational state at a certain time point predicted more instrumental self- and partner-reports of behavior in the next hours, which was observable for all kinds of behaviors. For example, a stronger state motivation for communion was followed by more subsequent self- and partner-reported communal behavior and a stronger state motivation for independence came along with subsequently more time spent for own interests. Only the time individuals spent alone was not consistently predicted by the different operationalization of communal state motivation; still, two out of three opera-

tionalizations were significant, namely those that especially emphasized the closeness aspect of communion.

The fact that almost all results also applied to partner-reports of behavior (albeit, with smaller effect sizes) makes a strong case for the importance of (self-reported) motivational states, as person-specific common-method biases are less of a problem for these partner-reports. That is, if the effects were only this consistent because both predictor and outcome were assessed with ESM and individuals have a bias in their response to experience sampling items in general, then the effects would not generalize to partner-reports (at least not unless the partner shared the bias).

From a theoretical perspective, it is highly plausible to find such consistent effects as the link between motivational *states* and behavior is at the core of the assumed function of motive *dispositions* (McClelland, 1987; see also DynaMoS-Model in Zygar et al., 2018a): Primarily the within-person process of aroused motivation that selects and energizes behavior facilitates a satisfaction of the underlying motive. The approximation of this process by looking at between-person differences in behavior and aggregated motivation or globally assessed motives is therefore a proxy that can be potentially misleading (see Molenaar, 2004; Molenaar & Campbell, 2009). In the specific context of intimate relationships, our results replicate past research showing that between-person as well as within-person effects of motivation on behavior reports point in the same direction (Zygar et al., 2018a). Still, this correspondence of between- and within-person effects cannot be taken for granted and has to be shown for each new domain. Therefore, effects that theoretically are located on a within-person level should always be investigated with appropriate within-person research designs.

As a caveat, the effect sizes of motivational states were generally small in terms of additional explained variance compared to a model with only the aggregated states and some covariates included. They were, however, in many cases, of comparable size to the between-person effects of explicit or implicit motive dispositions. In general, a notable advantage of state variables compared to dispositional variables is their ability to explain within-person variance, which would otherwise be completely treated as error variance in between-person analyses. Situational influences in everyday life are certainly one reason for the small effect sizes, as they are important factors for the occurrence of behavior, which were considered in our analyses only remotely as covariates that pose absolute barriers to the implementation of behavior. Opportunities that are present in situations, or less restrictive situational constraints (e.g., other persons being present or not) can also influence the occurrence of certain behaviors (e.g., what would be deemed appropriate behavior). Similarly, our analyses did not account for interpersonal influences on motivation and behavior, as the behavior of one partner constitutes again an important situational influence for the behavior of the other partner. The energizing function of motives (McClelland, 1987) would further suggest that differences in motive dispositions could explain why some individuals overcome certain situational barriers,

while others do not. This could be represented by an interaction between motive disposition strength and motivational state predicting behavior in certain situations. Hence, a promising avenue for future research is to specify the main effects we found on the within-person level by considering the situations individuals are in, the dyadic influences in the relationship, as well as cross-level interactions with motive dispositions.

The Effects of Between-Person Motivational Variables

The assessment of state measures does not only have the advantage of enabling within-person analyses, it also allows the computation of a person average of these states, which can be compared with other person-level variables, in our case, implicit and explicit motive dispositions. As a general result, between-person motivational measures do predict the average occurrence of certain behaviors.

The classical motive dispositions had in some cases an incremental effect beyond the effects of state and average motivational states. This could be explained by learned habits which trigger behavior without a corresponding motivation. It could serve as a shortcut in relationship situations which routinely follow a pattern (e.g., a sign of affection on a reunion) or which do not require realizing behavior against any barriers. A central question would be how such habituated behavior differs from motivated behavior, for example, in the affective satisfaction gained from these behavior types (see the affect-amplifying nature of motivation, Zygar et al., 2018a). Further, this result seems to provide evidence against the full mediation hypothesis assuming that motives only influence behavior via concrete motivational states. However, this conclusion would require that all variance of states is adequately measured. For various reasons this is unrealistic. For example, only an explicit assessment of motivational states is provided by the participants, whereas some motivational states might not be represented accordingly. Further, an ESM study cannot continuously measure the current motivational state, and our time windows between ESM surveys provide plenty of opportunities for states to change after an assessment. Hence, the relationship between motivation and behavior could differ depending on the time scale that is considered.²¹

Comparison: Effect Sizes

Comparing the different between-person motivational measures showed that across motive domains aggregated states generally had the strongest effects that were also, in most cases, incremental to the other effects. Again, this was also the case for most

21) To that end, Table S4 in the [Supplementary Materials](#) presents preregistered analyses showing that evening motivation to spend time together with the partner on the next day predicts communal behavior towards the partner on the next day, while aggregated states still provide incremental effects. This could be extended in further research to even larger and also even shorter time frames.

partner-reports of behavior, underlining the value of assessing motivational states also for explaining between-person differences.

It has to be considered, however, that these were only descriptive comparisons of the effect sizes, which were not subject to statistical tests. Further, the aggregated states were measured with higher reliabilities than the other dispositional measures, which influences the effect sizes. Moreover, as the aggregated states refer to the same time period as the reported outcomes, they have a crucial advantage compared to the motive dispositions which were assessed before the experience sampling. Future studies would need to predict behavior that is assessed separately from the occurrence of average motivational states, for example, in a delayed experience sampling period. This could reveal if aggregated states still maintain larger predictive effects than motive dispositions if they do not relate to the same time frame as the outcomes. Additionally, future research could provide insights about the stability of aggregated states (see [Fleeson, 2001](#) for such an approach to aggregated personality states): This would allow differences across time periods to be interpreted in terms of the conceptual meaning of aggregated states compared to motive dispositions.

Finally, it has to be noted that there is controversy in the literature on whether R^2 measures are appropriate effect sizes in the context of multilevel models, because depending on the formula for the R^2 measure, an additional predictor may reduce the explained variance (see, e.g., [Kreft & De Leeuw, 1998](#); [Nakagawa & Schielzeth, 2013](#)). The authors of the R^2 measure we applied in this study acknowledge this problem, but point out that this is unlikely to occur with their measure ([Nakagawa & Schielzeth, 2013](#), p. 137). Moreover, [Rights and Sterba \(2019\)](#) explicitly encouraged the comparison with the null model based on the R^2 measure we applied (p. 329). Still, we encountered a negative incremental R^2 in one CWCM model (state power motivation predicting dominant behavior, including a random slope), and interpreted the resulting R^2 as being zero.

Comparison: Types of Predicted Outcomes

Regarding the types of outcomes that the between-person motivational variables predicted, no systematic differences could be observed between aggregated states and explicit measures: for most outcomes, both kinds of measures were predictive. However, some differences emerged for implicit motives: First, the only time-related variable that was predicted by implicit motives was the time spent alone by pnCommunion, although we had also hypothesized that pnIndependence would predict the time spent for own interests. As spending time alone crucially hinders the fulfillment of intimacy, it represents a barrier to a basic boundary condition to be able to satisfy the communion motive, and might therefore be especially relevant (see [Bischof, 2008](#)). Spending time for one's own hobbies might not be enough to feel like an independent individual (although it should facilitate it), an experience needed for the satisfaction of independence motivation. Fu-

ture research should therefore investigate behavior that is even more closely related to independent behavior, such as making autonomous decisions or spending time for one's own interests *while simultaneously being alone* (compared to, e.g., group sports).

Second, pnCommunion and pnPower were predictive of the two evaluations of overall behavior quality captured by the IPC measure, but not for the occurrence of specific behavior acts captured by the behavioral indices. Post-hoc, it might be argued that compared to the specific behavior reports of the index, the IPC behavior reports are more indirect, thereby providing more opportunities to factor non-declarative cues into the assessment. That is, the rather vague assessment of kindness and dominance with the IPC grid might encourage individuals to include nonverbal behavior towards their partner they perceived as kind or dominant, such as an encouraging smile. Vice versa, the behaviors comprised in the index might be more declarative (e.g., the threshold to indicate that affection was shown might be perceived as requiring some form of verbal or physical interaction). It has to be noted, though, that the study was not designed to differentiate declarative from non-declarative measures (see, e.g., Hagemeyer et al., 2016). We expected that all motivational variables would predict all behavior self-reports (although difference in strength of effects were to be expected), hence our interpretations of the differences in results for different outcomes remains speculative.

Finally, whereas pnPower did predict dominant behavior, the superordinate pnAgency did not. This might be due to the specificity of the outcome measure, which directly matches a power goal, rather than a broader differentiation from other persons. Nonetheless, the result suggests that for the prediction of behavior, future studies should investigate the subcomponents of pnAgency separately (for a similar argument from a psychometric perspective, see Schönbrodt et al., 2019). Ideally, this might be done with partner-specific projective measures which were specifically designed to assess these two facets of agency.

Limitations of the Assessed Behavior Reports

Although the assessment of behavior reports with the experience sampling method has higher ecological validity than traditional questionnaire methods by capturing the behavior during individuals' daily lives and reducing memory biases (Bolger, Davis, & Rafaeli, 2003), our study still did not assess objective behavior. Arguably, partner-reports of behavior can be expected to be less influenced by biases that stem from "common rater effects" (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), and might be more objective to that respect. This, however, does not preclude that other biases can distort the perceptual process of the partner. Future research should combine experience sampling with mobile sensing (Harari, Gosling, Wang, & Campbell, 2015) to objectively assess whether the partner was contacted or what kind of interactions occurred. Additionally, studies using participant observation might provide more valid assessments of the actual agentic and communal qualities of behavior.

Conclusion

For a basic research question in motivational psychology our study demonstrated how the assessment of psychological states with the experience sampling method can extend our understanding of daily processes. Specifically, our results show that the prediction of behavior reports profits from a within-person perspective on motivational variables, that is, from the assessment of motivational states in addition to motive dispositions. These motivational states predict how individuals behave in their relationships in daily life, as reported by themselves and their partners. As a within-person effect, this complements the between-person effects of aggregated states and motive dispositions, which in turn illustrate inter-individual differences in average behavior. Future research should therefore consider both levels of analysis to capture the full picture of examined effects, and to better understand the psychological processes going on in individuals' lives.

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Data Availability: For this study, a dataset is available as scientific use file (Zygar-Hoffmann, Hagemeyer, et al., 2020).

Supplementary Materials

We embrace the values of openness and transparency in science (<http://www.researchtransparency.org>). We report how we determined our sample size, all data exclusions, all manipulations, and all measures in the study (Simmons, Nelson, & Simonsohn, 2012).

A dataset for this article is available as scientific use file via the PsychData repository (Zygar-Hoffmann, Hagemeyer, et al. (2020). The pre-registration protocol, the complete study codebook, all analysis scripts, and further supplementary materials, are available at the Open Science Foundation (OSF; Zygar-Hoffmann, Pusch, et al., 2017, 2020).

Index of Supplementary Materials

Zygar-Hoffmann, C., Hagemeyer, B., Pusch, S., & Schönbrodt, F. D. (2020). *A large longitudinal study on motivation, behavior and satisfaction in couples: Research data from a four-week experience sampling study with a pre-, post-, and one-year follow-up-assessment [Translated title]. (Version 1.0.0)* [Data and documentation]. Trier, Germany: Center for Research Data in Psychology PsychData of the Leibniz Institute for Psychology Information ZPID. <https://doi.org/10.5160/psychdata.zrce18mo99>

Zygar-Hoffmann, C., Pusch, S., Hagemeyer, B., & Schönbrodt, F. D. (2017). *Experience sampling study 2 on motivational dynamics in couples* [OSF-Standard Pre-Data Collection Registration]. OSF. <https://osf.io/af4yb>

Zygar-Hoffmann, C., Pusch, S., Hagemeyer, B., & Schönbrodt, F. D. (2020). *Paper: Motivated behavior in intimate relationships: Comparing the predictive value of motivational variables* [Codebook, analysis scripts, supplementary materials]. OSF. <https://osf.io/urwq7/>

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