

Interpersonal Circumplex Models and Measures of Personality

Abstract

The interpersonal circumplex (IPC) is a mathematically defined circular model of interpersonal dispositions organized around two dimensions: *agency* (ranging from confident/assertive to meek/submissive) and *communion* (ranging from warm/trusting stances to cold/wary). Inventories based on the IPC can elucidate the interpersonal patterns (a) of specific individuals, (b) of groups of individuals, or (c) that are linked to other characteristics (such as various psychopathologies). By providing a common structure within which to integrate findings from different inventories and research programs, the IPC helps promote cumulative scientific progress.

Keywords: interpersonal circumplex, agentic, communal

Citation

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Introduction

Interpersonal personality dispositions are an individual's tendencies to experience or express specific types of interpersonal thoughts, motives, or actions when interacting with other individuals (such as during a romantic date or during a presentation at work) or when imagining past or future interactions (such as when imagining a romantic date this evening or imagining a presentation at work tomorrow). The interpersonal circumplex (IPC) is an influential structural model for conceptualizing, organizing, and assessing interpersonal dispositions (Wiggins, 2003).

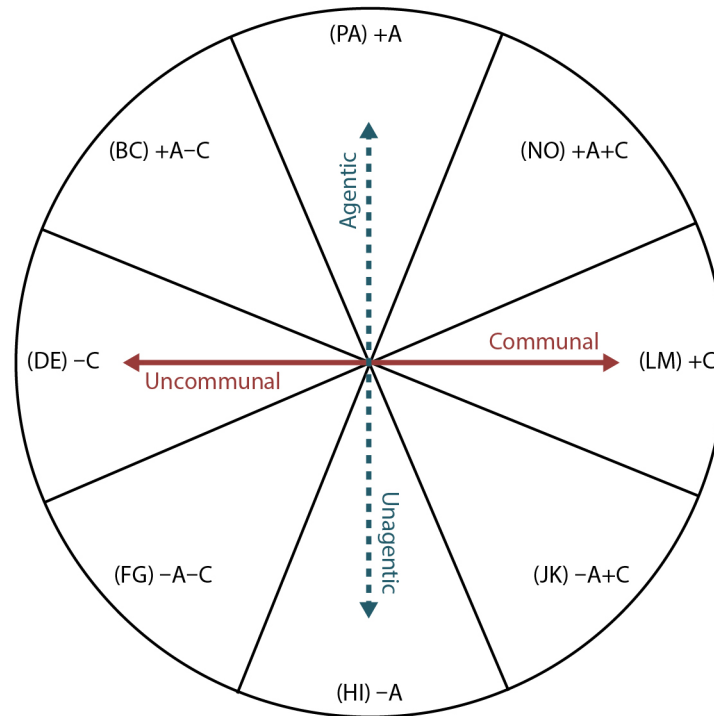


Figure 1: Interpersonal Circumplex.

As shown in Figure 1, the IPC is typically oriented so that its vertical and horizontal axes reflect the dimensions of Agency and Communion. The broad meta-constructs of agency and communion have proven useful for understanding many psychological and social phenomena (Abele & Wojciszke, 2018). Within the IPC, the agency axis ranges from confident, assertive, energetic, self-enhancing, dominating stances (at the top) to meek, passive, submissive, self-deprecating, conflict-avoidant stances (at the bottom); and the communion axis ranges from warm, trusting, friendly, embracing, nurturing stances (on the right) to cool, wary, aloof, callous, or unfriendly stances (on the left).

Theoretically, any interpersonal disposition can be located within the IPC. A disposition's unique mixture of agency and communion determines its location on the circumplex. For example, a disposition to chat gregariously—which reflects high agency and high communion—would be in the upper right, whereas a disposition to hide your thoughts and feelings—which reflects low agency and low communion—would be in the lower left. Because the circumplex is a formal mathematical model, each location can be precisely defined (and thus compared and combined) using trigonometry.

Interpersonal Circumplex Inventories

IPC inventories are designed to measure the complete spectrum of interpersonal dispositions encompassed by the IPC. For practical reasons, IPC inventories divide the continuous spectrum into segments—typically the eight octants shown in Figure 1—and comprise subscales reflecting each segment. By convention, the segments are sometimes labeled alphabetically with the letters PA, BC, DE, and so on, as shown in Figure 1. An alternative labeling system indicates whether an octant reflects high levels or low levels of Agency and Communion. For example, “BC” dispositions reflect high agency and low communion (+A-C), while “JK” dispositions reflect low agency and high communion (-A+C).

There now exist psychometrically sturdy interpersonal circumplex measures of diverse dispositions (Locke, 2011), with more being regularly developed. Table 1 highlights four such inventories: (1) the Circumplex Scales of Interpersonal Values (CSIV; Locke, 2000), which assesses how personally *important* it is for the respondent to have the types of experiences associated with each IPC octant; (2) the Circumplex Scales of Interpersonal Efficacy (CSIE; Locke & Sadler, 2007), which assesses respondents' *confidence* that they can enact behaviors associated with each octant; (3) the International Personality Item Pool-IPC (IPIP-IPC; Markey & Markey, 2009), which assesses behavioral *tendencies* associated with each octant; and (4) the Circumplex Scales of Interpersonal Problems (CSIP; Boudreaux et al., 2018), which assesses behavioral *problems* associated with each octant.

Type	CSIV	CSIE	IPIP-IPC	CSIP
Octant Scale	<i>How important is it that:</i>	<i>How confident am I that I can:</i>	<i>Does this describe me accurately?</i>	<i>How much of a problem is this for me?</i>
(LM) +C	I feel connected to them	Understand their feelings	Reassure others	Trusting people too easily
(NO) +A+C	They respect what I have to say	Express myself openly	Start conversations	Talking too much
(PA) +A	They acknowledge when I am right	Be assertive	Do most of the talking	Bossing around other people too much
(BC) +A-C	I appear forceful	Be aggressive if I need to	Contradict others	Acting rude and inconsiderate toward others
(DE) -C	I keep my guard up	Get them to leave me alone	Don't fall for sob-stories	Pushing away other people who get too close
(FG) -A-C	I <i>not</i> say something stupid	Hide my thoughts and feelings	Am quiet around strangers	Feeling fearful or nervous in social situations
(HI) -A	I <i>not</i> make them angry	Let others take charge	Speak softly	Having trouble asserting myself
(JK) -A+C	They approve of me	Be giving	Tolerate a lot from others	Being easily influenced by others

Table 1: Examples of items from CSIV, CSIE, IPIP, and CSIP scales. Note: CSIV = Circumplex Scales of Interpersonal Values. CSIE = Circumplex Scales of Interpersonal Efficacy. IPIP-IPC = International Personality Item Pool-IPC. CSIP = Circumplex Scales of Interpersonal Problems.

The geometry of the IPC helps to elucidate similarities and differences among interpersonal dispositions (Wiggins, 2003). Dispositions that are adjacent to each other on the circle (e.g., the +A disposition assertive and the +A–C disposition blunt) will be conceptually similar and statistically positively correlated. Dispositions that are orthogonal or roughly 90° apart (e.g., the +A disposition assertive and the +C disposition trusting) will tend to be conceptually unrelated and statistically uncorrelated. Dispositions that are antipodal or roughly 180° apart (e.g., the +A disposition assertive and the –A disposition timid) will tend to be conceptually opposites and statistically negatively correlated.

Pragmatically, this means knowing an individual's dispositions in one segment can help us predict that individual's dispositions in adjacent as well as opposing segments. For example, if you know a coworker is more *sympathetic* than the average person, then that should increase your confidence that this coworker is also above average in other communal dispositions (e.g., *trustworthy*, *expressive*) and below average in uncommunal dispositions (e.g., *wary*, *deceptive*); however, it would not help you predict whether they are above or below average in agentic dispositions (e.g., *assertive*) or unagentic dispositions (e.g., *bashful*), as those are geometrically orthogonal and statistically uncorrelated.

Because all IPC inventories rest on the same conceptual and structural foundation, it can be informative to administer different IPC inventories to the same individual—referred to as *multilevel* or *multisurface interpersonal assessment*—and examine the consistencies or inconsistencies across the inventories. For example, Dawood and Pincus (2016) present case studies of two therapy clients who were each administered six different IPC inventories (including measures of problems, strengths, and sensitivities). Individuals generally tend to show cross-surface consistency; for example, individuals who express relatively strong communal self-efficacy (e.g., “I *can* be open”) also tend to express relatively strong communal values (e.g., “I *want to* be open”) as well as communal traits (e.g., “I *tend to* be open with others”) and problems with being too communal (e.g., “I am vulnerable to being too open”). However, there can also be mismatches across different surfaces. For example, Kehl et al. (2021) found that mismatches between an individual's values (as assessed by the CSIV) and self-efficacy (as assessed by the CSIE) predicted greater interpersonal distress.

Example Applications

The IPC allows us to depict (a) the interpersonal dispositions of specific individuals, (b) the typical interpersonal dispositions of a group of individuals, and (c) the interpersonal dispositions that tend to co-occur with other variables (Gurtman & Pincus, 2003). In this section, I illustrate each type of application using data from a study by Locke and colleagues (2018) in which individuals completed the CSIV measure of interpersonal values.

Depicting Persons

An individual's *circular profile* depicts a person's scores on each subscale of an IPC inventory. Figure 2 shows the CSIV profiles for two participants from Locke et al.'s (2018) study. Each octant score can range from 0 (low) to 4 (high). Within each octant, lower scores (closer to 0) will be closer to the circle's center, whereas higher scores (closer to 4) will be closer to the circumference. It follows from the geometry of the circumplex that the expected prototypical circular profile will be like a wave (i.e., cosine curve), with high and low scores falling on opposite sides of the circle and intermediate scores falling in between. For example, in Figure 2, Person A's highest scores are in the bottom octants, and the lowest scores are in the top octants. In contrast, Person B's highest scores are toward the upper right, and the lowest scores are toward the lower left. Circular profiles are quite useful for understanding one individual or for comparing two individuals but can become difficult to decipher when comparing multiple individuals simultaneously.

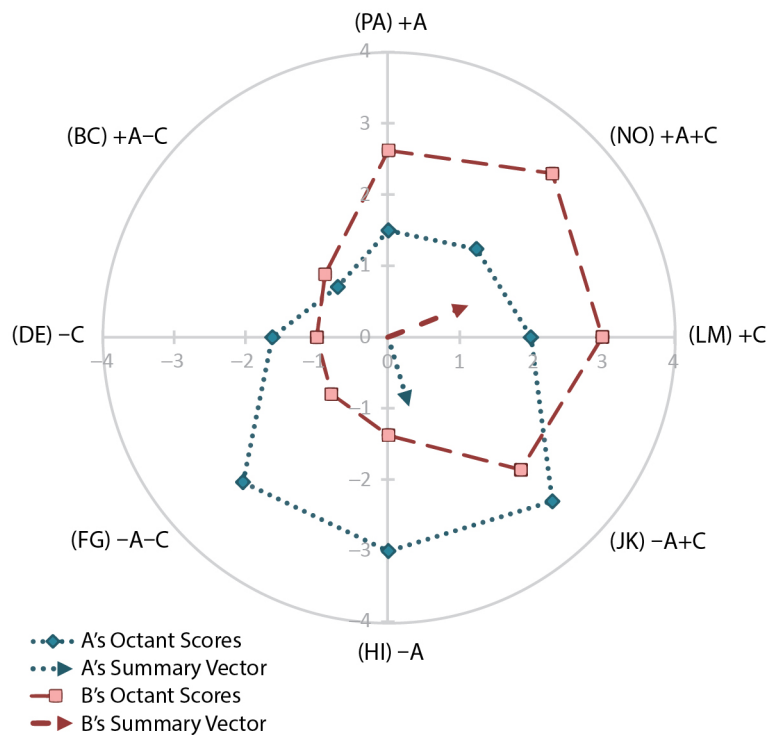


Figure 2: Examples of circular profiles of two different individuals.

Fortunately, circumplex profiles can be condensed onto a single vector using basic trigonometric formulas (Gurtman & Pincus, 2003). For example, for Person A in Figure 2, imagine eight arrows projecting from the circle's center to each of Person A's octant scores (i.e., the blue diamonds). Each arrow shows Person A's disposition to go in that particular direction. The average of those eight vectors yields a summary vector that reflects Person A's overall interpersonal tendency. The summary vector's *angle* shows in which *direction* the person leans. For example, the summary vectors in Figure 2 show that Person A's values lean downward away from agency (e.g., placing less value on being assertive than avoiding conflict), whereas Person B's values lean toward agency and especially communion (e.g., placing *more* value on creating connections than avoiding embarrassments). The summary vector's *length* shows how *intensely* and *unambiguously* the person leans in that direction. For example, Person B's summary vector will be longer than that of someone who values all segments similarly (e.g., for whom connection and self-protection and assertion and conflict-avoidance are all roughly equally important).

Depicting Groups

Locke et al.'s (2018) study included two groups of participants: 138 patients diagnosed with persistent major depression and a normative comparison sample of 389 individuals from the general population. To understand and compare these two groups, we can use the same methods that we used in the previous paragraphs to understand and compare individuals. Specifically, the circular profile of the group of 138 depressed patients is their *average* score within each octant, and likewise for the normative sample. Each group's circular profile can then be condensed into a single summary vector.

Figure 3 shows the endpoints of the summary vectors for the depressed group and the normative sample. Juxtaposing the two groups in Figure 3 highlights several patterns. First, both groups fall to the right of the midline, indicating that—among both depressed and nondepressed individuals—communal “+C” motives (to connect) generally outweighed uncommunal “-C” motives (to maintain distance). Second, the degree to which communal motives outweighed uncommunal motives was slightly less among depressed patients, thereby pulling them further away from the communal “+C” pole of the circumplex. Third, and most noticeably, in contrast to the normative sample, the depressed group was below the midline of the circle, indicating that their unagentic “-A” motives (to cautiously lay low) outweighed their agentic “+A” motives (to confidently stand out). As an aside, the two participants depicted in Figure 2 roughly fit this general pattern: Participant A (in whom unagentic motives outweighed agentic motives) was from the depressed group, whereas Participant B (who placed great importance on experiencing agency and communion with others) was from the normative sample.

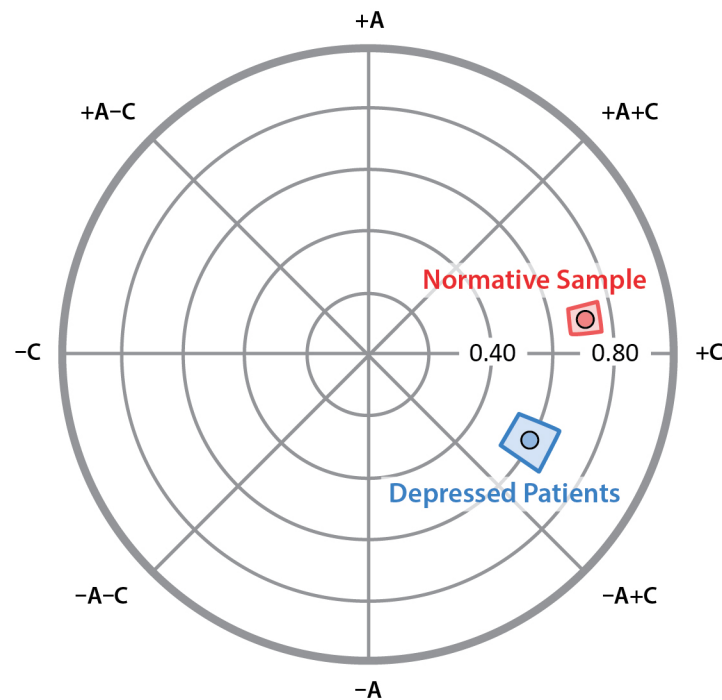


Figure 3: Interpersonal values of depressed patients and a normative comparison sample. Dots represent group means and tinted regions represent 95% confidence intervals. Computed and plotted using the circumplex package for R (Girard et al., 2018).

Depicting Continuous Variables

Methods similar to those used here to examine the interpersonal dispositions of individuals and groups can be used to examine how interpersonal dispositions correlate with continuous variables (such as individuals' ages or test scores). As an example of continuous variables, the level of depression of the depressed participants in Locke et al. (2018) was rated both by clinicians and by the patients themselves. Because clinician ratings and self-ratings showed moderate agreement, I averaged them to yield an overall index of each patient's *depression severity*. I then computed correlations between the patients' depression severity and their CSIV octant scores, and finally, I aggregated that *circular profile* of eight correlations into a single summary vector. Figure 4 shows the average resultant summary vector. The direction of the vector indicates that—among persistently depressed patients—those whose depression was more severe showed weaker agentic “+A” and agentic-and-communal “+A+C” motives (to gain social respect) and stronger unagentic “–A” and unagentic-and-uncommunal “–A–C” motives (to avoid social blunders). Note that the differences between the normative and depressed groups (in Figure 3) mirror the differences within the depressed group (in Figure 4), with both the presence of depression (in Figure 3) and the severity of depression (in Figure 4) predicting significantly weaker agentic motives and slightly weaker communal motives.

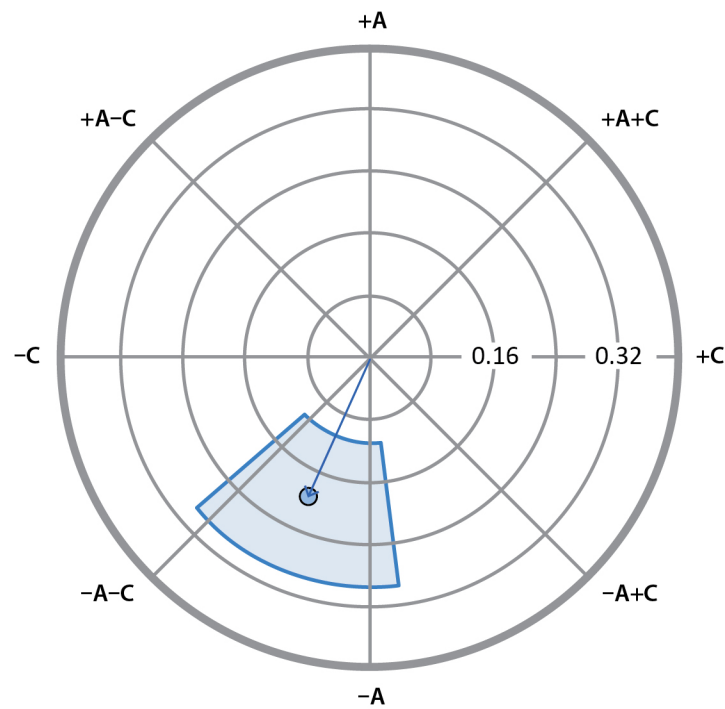


Figure 4: Depression severity. The dot represents the average correlation between depression severity and interpersonal values (i.e., averaging across the circular profile of correlations with each octant). The tinted region is the 95% confidence interval.

A Structure for Integrative and Cumulative Interpersonal Science

Many studies have used the techniques described within this article to locate various groups or variables on the IPC. For example, numerous studies have measured associations between IPC inventories and indices of traditional DSM personality disorders (e.g., borderline, dependent, narcissistic); and an ambitious meta-analysis of 127 such studies (comprising 2,579 effect sizes) found each diagnostic category was associated with a distinct interpersonal profile (Wilson et al., 2017). Many other psychopathologies have been investigated, such as alcohol dependence (Girard et al., 2017) and generalized anxiety disorder (Malivoire & Koerner, 2022). Studies have also explored the interpersonal profiles associated with a variety of normal-range personality traits, such as dispositional mindfulness (Deits-Lebehn et al., 2022) and the “Big 5” factors (Du et al., 2020).

Figure 5 displays just a sample of the sundry constructs (such as traits, disorders, nonverbal behaviors, and even hormone levels) that researchers have projected onto the IPC. (Their locations are merely approximations based on studies with which the author is familiar). Figure 5 illustrates two important points: (1) agentic and communal interpersonal dispositions are associated with many types of constructs, and (2) projecting those diverse constructs onto the same space can help organize and highlight the interpersonal similarities and differences among those constructs.

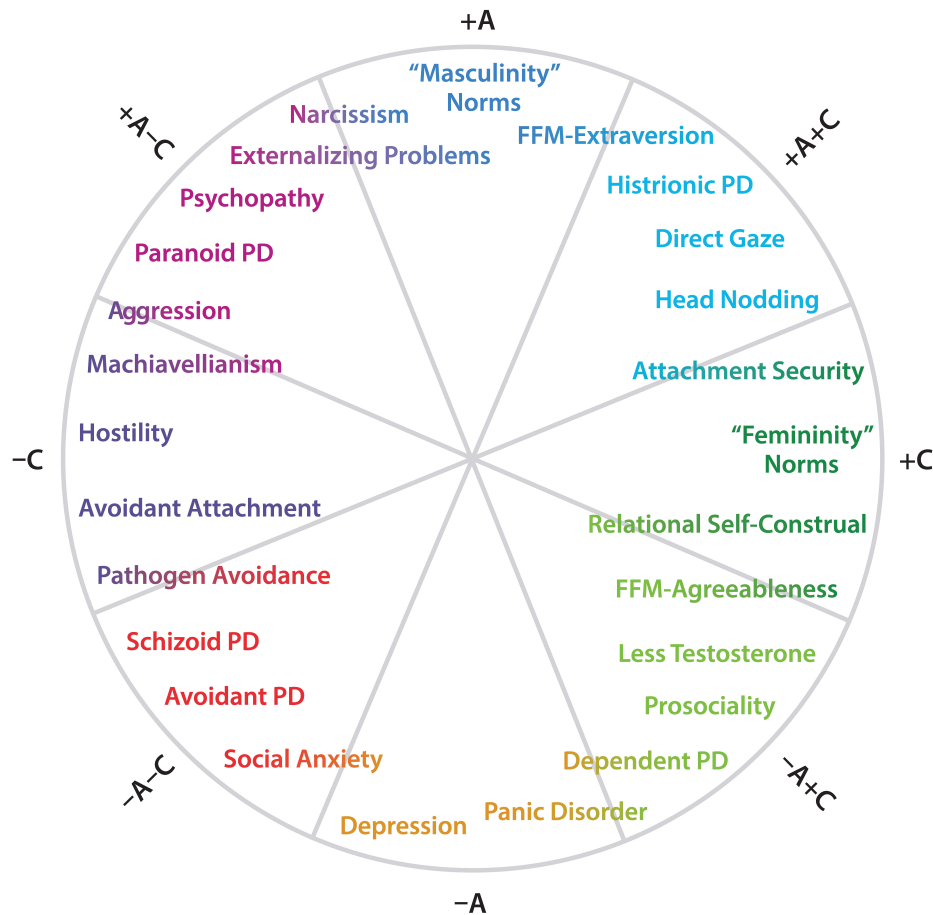


Figure 5: Mapping constructs onto IPC. Approximate angles of summary vectors for various constructs that have been correlated with IPC scales. PD = Personality Disorder.

Conclusion

IPC models of interpersonal dispositions offer a balance of breadth and parsimony: They systematically sample the complete spectrum of interpersonal dispositions defined by agency and communion, but they enable information from around the circle to be combined into a few summary variables or graphed as a single point. IPC models facilitate comparing and contrasting the interpersonal dispositions associated with different individuals, groups, or variables by mapping them onto the same shared space. By providing a stable structure within which to integrate findings from different inventories and programs of research, the IPC helps deter “jangle fallacies” and promote cumulative progress.

If you are curious to delve deeper into the IPC, then you might consider starting with Leary (1957), the seminal treatise demonstrating the explanatory capacity and clinical utility of the “interpersonal circle” (as it was then called). If you are curious about current directions, then “Contemporary Integrative Interpersonal Theory” (Wright et al., 2023) is an evolving example of how the IPC can serve as a core meta-framework from which to elaborate an encompassing model of interpersonal functioning that spans moment-to-moment interactions and multiyear developmental trajectories.

Bibliography

- Abele, A. E. & Wojciszke B. (Eds.). (2018). *Agency and communion in social psychology*. Routledge.
- Boudreaux, M. J., Ozer, D. J., Oltmanns, T. F., & Wright, A. G. C. (2018). Development and validation of the circumplex scales of interpersonal problems. *Psychological Assessment*, 30(5), 594–609. <https://doi.org/10.1037/pas0000505>

- Dawood, S., & Pincus, A. L. (2016). Multisurface interpersonal assessment in a cognitive-behavioral therapy context. *Journal of Personality Assessment*, 98(5), 449–460. <https://doi.org/10.1080/00223891.2016.1159215>
- Deits-Lebehn, C., Smith, T. W., Grove, J. L., Williams, P. G., & Uchino, B. N. (2022). Interpersonal style contributes to the association of dispositional mindfulness with social functioning. *Mindfulness*, 13, 373–384. <https://doi.org/10.1007/s12671-021-01798-z>
- Du, T. V., Yardley, A. E., & Thomas, K. M. (2020). Mapping big five personality traits within and across domains of interpersonal functioning. *Assessment*, 28(5), 1358–1375. <https://doi.org/10.1177/1073191120913952>
- Girard, J. M., Wright, A. G. C., Beeney, J. E., Lazarus, S. A., Scott, L. N., Stepp, S. D., & Pilkonis, P. A. (2017). Interpersonal problems across levels of the psychopathology hierarchy. *Comprehensive Psychiatry*, 79, 53–69. <https://doi.org/10.1016/j.comppsy.2017.06.014>
- Girard, J. M., Zimmermann, J., & Wright, A. G. C. (2018, June 22–23). *New tools for circumplex data analysis and visualization* [Conference presentation]. Society for Interpersonal Theory & Research. Scientific Program, Montreal, Canada. <https://sitar2018.files.wordpress.com/2018/05/sitar-2018program.pdf>
- Gurtman, M. B., & Pincus, A. L. (2003). The circumplex model: Methods and research applications. In J. Schinka & W. Velicer (Eds.), *Handbook of psychology* (Vol. 2, pp. 407–428). Wiley.
- Kehl, M., Edershire, E. A., Hopwood, C. J., & Wright, A. G. (2021). A response surface analysis investigation of the effects of (mis) alignment between interpersonal values and efficacies on interpersonal problems. *Journal of Personality*, 89(6), 1143–1158. <https://doi.org/10.1111/jopy.12641>
- Leary, T. F. (1957). *Interpersonal diagnosis of personality: A functional theory and methodology for personality evaluation*. Ronald Press.
- Locke, K. D. (2000). Circumplex scales of interpersonal values: Reliability, validity, and applicability to interpersonal problems and personality disorders. *Journal of Personality Assessment*, 75(2), 249–267. https://doi.org/10.1207/S15327752JPA7502_6
- Locke, K. D. (2011). Circumplex measures of interpersonal constructs. In L. M. Horowitz & S. Strack (Eds.), *Handbook of interpersonal psychology* (pp. 313–324). Wiley.
- Locke, K. D. & Sadler, P. (2007). Self-efficacy, values, and complementarity in dyadic interactions: Integrating interpersonal and social-cognitive theory. *Personality and Social Psychology Bulletin*, 33(1), 94–109. <https://doi.org/10.1177/0146167206293375>
- Locke, K. D., Sayegh, L., Weber, C., & Turecki, G. (2018). Interpersonal self-efficacy, goals, and problems of persistently depressed outpatients: Prototypical circumplex profiles and distinctive subgroups. *Assessment*, 25(8), 988–1000. <https://doi.org/10.1177/1073191116672330>
- Malivoire, B. L., & Koerner, N. (2022). Interpersonal dysfunction in individuals high in chronic worry: Relations with interpersonal problem-solving. *Behavioural and Cognitive Psychotherapy*, 50(2), 142–157. <https://doi.org/10.1017/S1352465821000436>
- Markey, P. M., & Markey, C. N. (2009). A brief assessment of the interpersonal circumplex: The IPIP-IPC. *Assessment*, 16(4), 352–361. <https://doi.org/10.1177/1073191109340382>
- Wiggins, J. S. (2003). *Paradigms of personality assessment*. Guilford Press.
- Wilson, S., Stroud, C. B., & Durbin, C. E. (2017). Interpersonal dysfunction in personality disorders: A meta-analytic review. *Psychological Bulletin*, 143(7), 677–734. <https://doi.org/10.1037/bul0000101>
- Wright, A. G. C., Pincus, A., & Hopwood, C. J. (2023). Contemporary integrative interpersonal theory: Integrating structure, dynamics, temporal scale, and levels of analysis. *Journal of Psychopathology and Clinical Science*, 132(3), 263–276. <https://doi.org/10.1037/abn0000741>

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Kenneth Locke earned his PhD from Stanford University and is currently a licensed psychologist and a professor of psychology at the University of Idaho. Dr. Locke is a former president of the Society for Interpersonal Theory and Research and associate editor at the *Journal of Personality*. Across more than seventy-five publications, he has explored various topics within personality, clinical, social, and—more recently—cultural and organizational psychology. Dr. Locke also relishes teaching and must particularly enjoy teaching Psychology of Personality because—despite having taught that course several times every year for decades—he still looks forward to every class.