Reformulation of the Core Conflictual Relationship Theme (CCRT)

Categories: The CCRT-LU Category System

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This study was supported in part by the Deutsche Forschungsgemeinschaft (DFG, Ge 786/1-2 + Ka 483/12-2).
Abstract

The Core Conflictual Relationship Theme (CCRT) method was developed by Lester Luborsky and is regarded as an established technique for assessing central relationship patterns in psychotherapy research. Numerous studies have investigated associated research areas and clinical applications. Many of these studies have reported problems with the CCRT method attributable to the underlying construct of the CCRT categories. This study describes the development of alternative German CCRT categories, the CCRT-LU categories, in which LU stands for the place of development (Leipzig/Ulm) and for the "logically unified" aspect of the system. For the first time, the CCRT-LU categories are assigned to a sample of clinical intake interviews with 32 female patients.

Keywords:
relationship patterns, CCRT, CCRT-LU, reformulated categories
Reformulation of the Core Conflictual Relationship Theme (CCRT) Categories: The CCRT-LU Category System

In the Core Conflictual Relationship Theme (CCRT) method developed by Lester Luborsky (Luborsky, 1977; Luborsky, Albani, & Eckert, 1992; Luborsky & Crits-Christoph, 1990, 1998), relationship patterns are extracted by identifying the most pervasive components found in the patient's set of relationship narratives. Each of the relationship episodes (REs) is marked and assigned to a type of component: wishes (W), responses from others (RO), or responses of self (RS). The CCRT is derived from the highest frequency of the scored categories across the components.

First, the categories are formulated as close to the narrative transcripts as possible, resulting in tailor-made categories. These tailor-made categories are then translated into the list of standard categories (Barber, Crits-Christoph, & Luborsky, 1990; Crits-Christoph & Demorest, 1988) and clusters (Barber et al., 1990). This category list includes three component dimensions and was developed to advance inter-rater reliability and comparison between different subjects; this list has been translated into German (Luborsky et al., 1992).

The CCRT method is internationally established as a research method that extracts conflictual relationship patterns. Although numerous studies have shown evidence of method validity (Luborsky & Crits-Christoph, 1990; see Luborsky et al. for a summary of CCRT research, 1999), discussions have often included criticism of the CCRT category structure (Albani et al., 1999; Strauss et al., 1995).

Luborsky based his findings largely on American studies (Levine & Luborsky, 1981; Bond, Hansell, & Shevrin, 1987; Crits-Christoph et al., 1988a; Guitar-Amsterdamer, Stähli, Schneider, & Berger, 1988; Crits-Christoph, Luborsky, Popp, Mellon, & Mark, 1990; Popp et al., 1996; Barber, Luborsky, Crits-Cristoph, & Diguer, 1995) and reported that the method attains an acceptable
degree of reliability with weighted kappa computed by the Diguer procedure between .53 and .83 (Luborsky & Diguer, 1995); however, many German studies reported a markedly lower degree of agreement ranging from .14 to .58 (Zander, Strack, Cierpa, Reich & Staats, 1992; Zander et al. 1995a, 1995b; Kutz, 1998). The lower degree of agreement could be attributed to the different evaluation procedures for kappa used in the German and American studies. In addition, the narrative material of American studies included marked episode and component boundaries whereas the German studies were based on a naturalistic clinical design. Even when these method differences are taken into account, German studies suggest that the underlying construct of the category system contributed to the lower reliability scores.

Development of the CCRT-LU Category System

Aim

The aim of our study was to reformulate the CCRT category system (German version). To consider categories for inclusion, we applied principles of accuracy, exclusivity, and exhaustivity (Bortz & Döring, 1995). We applied the following principles to construct the reformulated CCRT category system:

1. A comprehensive empirical base should be used to reformulate the categories, and the conclusions garnered in the large number of existing studies should be considered.
2. Situations should be avoided in which a tailor-made formulation cannot by assigned to any standard category or in which it can be assigned to more mutually overlapping categories.
3. The existing parallels between the categories of the 3 component dimensions should be expanded to a consequent and logical system.
4. Navigation within the system should be simplified by means of the hierarchical structure; the ratings should be conducted not bottom-up, as in past studies, but top-down.
5. The system should contain the minimal number of categories and clusters necessary.

6. The empirical approach used by Luborsky should be maintained; there should be no reduction to only two theoretically-based axes (as in the Structural Analysis of Social Behavior [SASB] model).

7. Judges should be able to master the scoring procedures without difficulty.

8. The system should be constructed to maximize the ease of application and to economize on effort and time.

Data Sources for the Development of the CCRT-LU Category System

The development of the new category system was supported by five different data sources: (a) CCRT user questionnaire results, (b) evaluation of available CCRT data (c) existing CCRT category formulation (Crits-Christoph & Demorest, 1988), (d) alternate methods for identifying interpersonal patterns, and (e) categories derived from theoretical models.

Results of the CCRT user questionnaire. In a questionnaire, CCRT users were asked to list the tailor-made formulations that could, in the existing CCRT system by Crits-Christoph and Demorest (1988), be assigned either to none of the standard categories or to more than one of the categories. The number of returned questionnaires was unfortunately low. When evaluating the questionnaire results, we found 29 tailor-made formulations for the W dimension, 80 tailor-made formulations for the RO dimension, and 109 tailor-made formulations for the RS dimension.

Evaluation of available CCRT data. A large number of CCRT studies have been conducted in German speaking countries, and this empirical database played a large part in the development of our new category system. We asked the authors of various CCRT studies for access to their CCRT data and results. The resonance was very positive, and we would like to thank all colleagues who
showed their support. We had access to the CCRT data from 8 psychodynamic short-term therapies, 2 psychoanalytical long-term therapies, 12 curriculum vitae, 72 intake interviews, and 445 relationship episode interviews.

Experienced CCRT judges used this extensive material to construct lists of tailor-made formulations that could either not be assigned to one of the existing categories (Crits-Christoph & Demorest, 1988) or that could be assigned to more than one of the existing category.

Existing CCRT categories (Crits-Christoph & Demorest, 1988). The 34 standard categories for wishes (W), the 30 categories for responses from others (RO), and the 30 categories for responses of self (RS) were incorporated.

We would like to thank the following colleagues for supporting our study: Dr. T. Anstadt, Saarbruecken; Dr. D. Bannier, Stassfurt; Dr. P. Gerhard, Leipzig; Dr. G. Messer, Ulm; Dr. M. Moeckel, Leipzig; Dr. H. Staats, Goettingen; Dr. M. Stigler, Lausanne; Dr. A. Stirn, Frankfurt; Dr. K. Stolzenburg, Leipzig; Prof. B. Strauss, Jena; Dr. B. Waldvogel, Muenchen.
Alternate methods for identifying interpersonal patterns. To incorporate the W, RO, and RS categories not found in the existing category system (Crits-Christoph & Demorest, 1988), we first went over the following methods:

1. Central Relationship Questionnaire (Barber, Foltz, & Weinryb, 1998)
2. Inventory of Interpersonal Problems (Horowitz, Strauß, & Kordy, 1994)
3. Freiburg Personality Inventory (FPI) (Fahrenberg, Hampel, & Selg, 1984)
4. The NEO Five-Factor Inventory (NEO-FFI) (Borkenau & Ostendorf, 1993)
5. Attachment Questionnaire (Griffin & Bartholomew, 1994)
7. Interpersonal Relationship Pattern Questionnaire (ZMBM-SC) (Kurth, 1998)
8. OPD Relationship Axes Categories (OPD Research Group, 1996)
10. Wishes and Fears Ratings using the Ideographic Conflict Formulation (ICF) method (Perry, 1997)
12. Revised CCRT wish (W) categories (Thorne & Klohnen, 1993)
13. Anxiety Theme Dictionary (Grünzig, 1980)
Categories derived from theoretical models. To formulate further categories, we chose the following models as a basis: (a) the interpersonal circumplex model (Leary, 1957; Kiesler, 1983), (b) Lichtenberg's theory of motivational-functional systems (Lichtenberg, 1983), (c) the Big Five factor structure (Goldberg, 1992), and (d) the attachment theory (Bowlby, 1969, 1973, 1980).

Method of Development\(^2\) of the CCRT-LU Category System

Creating lists and reducing tailor-made formulations. Based on the available material, separate lists were created for each of the three component dimensions: wishes, reactions from others, and reactions of self. The resulting lists were composed of 806 W formulations, 1158 RO formulations, and 1363 RS formulations. We had planned to use the paired-comparison method to derive the level of agreement for similarity in order to create clusters, but this procedure was rendered too difficult due to the sheer number of tailor-made formulations. This difficulty was one of the reasons behind our decision to develop the new category system on the basis of predicate logic.

A list of elementary predicates was extracted from the tailor-made formulation lists. In the list of elementary predicates, each predicate appeared only once. The predicate's classification did not depend on assignment to wishes, responses of others, and responses of self, the active and passive, and negative formulation. To extract the predicates, synonyms and very similar predicates were bundled into one predicate group. Finally, each individual tailor-made formulation was tested to determine whether or not it could be assigned to a predicate group in the list. If not, a new predicate was added to the predicate list. Using this procedure, a list of 232 predicate groups was created.

In the next step, these predicates were judged according to their similarity. We then created a separate list consisting of a further 83 tailor-made formulations.

\(^2\) We would like to thank Dr. M. Stigler, Univ. of Lausanne, Prof. J. Barber, Univ. Pennsylvania and Prof. P. Hajek, Inst. Comp. Sci., Prag for supporting methodological comments.
with sexual content. We took this list through the same procedure as the list of elementary predicates (without sexual content) described above.

*Similarity rating and first hierarchical cluster analysis of the 232 predicate groups.* To reduce the list of 232 predicate groups, two judges completed similarity ratings independently of each other. A rating of all 26,796 predicate pairs could not be undertaken. Therefore, we used the following procedure: For each predicate, up to 9 predicates similar in meaning were found. We then assigned the related predicates to one of three categories: synonymous predicates, very similar predicates, and doubtfully similar predicates. The results of the similarity ratings were used to construct three similarity matrices based on ratings of judge X, ratings of judge Y, and on agglomerated ratings of both judges X+Y. These three similarity matrices formed the basis for conducting hierarchical cluster analyses using the single-linkage, average-linkage, and complete-linkage methods. The reduction of the predicate lists was accomplished in consensus of four category-system developers using the nine dendrograms constructed during the cluster analyses.

The cluster analyses results were not automatically carried over. Instead, we discussed the content of each cluster and used theoretical concepts to test the homogeneity of the clusters. The hierarchical cluster analysis is well suited to such heuristic methods. A new list of 101 predicate groups was created.

*Similarity rating and second hierarchical cluster analysis of 101 predicate groups.* Five judges rated the list with 101 predicate groups according to similarity using the same procedure described above. These similarity ratings formed the basis for the second hierarchical cluster analysis.

First, the reliability of each judge was tested against himself: Assigning predicate P to predicate Q required a symmetrical assignment of predicate Q to predicate P. Therefore, within the ratings of one individual judge, the similarity of the predicate pairs P-Q and Q-P should agree. Two procedures were used here: the weighted kappa for original ordinal-scaled judgments (*predicates synonymous,*}
very similar, doubtfully similar, not similar) and the unweighted kappa for dichotomized judgments (predicates similar or predicates not similar).

Please paste Table 1

The agreement (see Table 1) on finding dichotomized similarity across all rater pairs was rated fair (range .49 - .59). The agreement on finding a differentiated ordinal-scaled level of similarity was rated fair (range .48 - .53). For each of the five judges, the average level of his/her agreement with other four judges was calculated. The unweighted kappas (range .47-.51) and the weighted kappas (range .42-.45) yielded a rating of fair (Landis & Koch, 1970; Sachs, 1992).

We constructed a provisional category system based on the cluster analyses results in consensus within our research group; the provisional system was composed of 119 low-level categories (subcategories), including more than one predicate in some cases, 34 middle-level categories, and 11 high-level categories (clusters) that belonged to one of two classes: harmonious or disharmonious. The content of the dichotomy harmonious/disharmonious corresponds to the dimension of attraction/repulsion (positive/negative) in Dahl's theory of emotions (Dahl, 1979, 1991). In Dahl’s theory, the direction of the emotion can be determined: it-emotions are measured away from or towards the object and me-emotions are measured according to the degree of certainty of wish fulfillment. We labeled the ground dimensions as harmonious and disharmonious to avoid confusion with the positive and negative valuation of object and subject responses.

Sexual categories. We scored tailor-made categories with sexual content separately from tailor-made categories without sexual content under the assumption that rating the similarity between the two categories could not be accomplished satisfactorily. In consensus between two judges, the 83 tailor-made formulations with sexual content were assigned to corresponding predicates, and synonyms were eliminated. This procedure yielded a list containing 34 predicate
groups. In the next step, the two judges gave similarity ratings for the 34 predicates. On this basis, the first hierarchical cluster analysis was conducted. The similarity ratings for the first hierarchical cluster analysis were used to create a list with 10 predicate groups. Five judges rated each of the 10 predicate groups according to their similarity. The similarity ratings were applied to the second hierarchical cluster analysis. The intra-rater reliability for the five judges showed an averaged weighted kappa and an averaged unweighted kappa of .69 and .82, respectively; the inter-rater reliability yielded .54 for weighted kappa and .61 for unweighted kappa. Thus, the reliability for the degree of agreement in this step was evaluated as *fair to good*. As a result of the agreement scores for the second hierarchical cluster analysis, we were able to identify two categories: "sexually active" with five subcategories and "sexually inactive" with three subcategories as well as a further subcategory: "sexual abuse, rape".

*Development of the final list (see Appendix).* After testing the reformulated category system, the content was revised at the cluster level. This revision resulted in the final version of the list. The final list is composed of 119 subcategories that are clustered under 30 middle-level categories. The middle-level categories are bundled under 13 high-level cluster categories. The two classes harmonious/disharmonious were retained. The original German version can be accessed by contacting the authors.

*English version of the reformulated categories.* Three translators (R. Deighton, C. Fisher, and U. Jacobs) translated the final list into English independently. Certain differences in wording originated in the individual style of the translators, and a comparison of the three lists showed a high level of agreement. R. Deighton and the authors prepared the final version (see Appendix for the English Predicate List). Translations into further languages are in preparation.
Naming. We named the new category system CCRT-LU. "LU" stands for the place of development (Leipzig-Ulm), and also for the "logically unified" characteristic of the system.

Using Predicate Logic to Describe Interpersonal Relationships

Predicate calculus forms the basis for the language of modern mathematics: using predicates expressing characteristics of objects (unary predicates) or expressing characteristics of relationships between two (binary predicates) or more objects. We have applied certain elements of predicate calculus to construct the CCRT-LU system model; a more detailed description of this approach can be found in Pokorny et al. (submitted for publication). In the context of the CCRT method, formulas containing unary predicates are suited to describe feelings in terms of Dahl's me-emotions: "I am depressed", "the father is content". Actions and feelings can be described by formulas containing binary predicates and correspond to Dahl's it-emotions: "Romeo loves Julia". The formulas for these are:

- depressed (I)
- content (father)
- love (Romeo, Julia)

Binary predicates can relate to the same object reflexively. The biblical warning "Love your neighbor as you love yourself" contains from the perspective of the receiver two predicate formulas:

- love (I, neighbor)
- love (I, I)

A statement of oppositional meaning to the given formula can be expressed either through logical negation or through a suitable positively formulated predicate. We decided to use positively formulated predicates for the CCRT-LU

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3 The category system CCRT-LU was created by the team consisting of C. Albani, D. Pokorny, G. Blaser, and S. Grueninger
categories as far as possible. For example, instead of "not loving", a decision for the specific content of "hate" or "ignoring" should be made.

Responses. The CCRT method (and consequently the CCRT-LU system) focus on the patient's perspective and are thus "egocentric": the important relationships are between "I" (patient) and another person. Consequently, all responses (actions, thoughts, and feelings) are relevant in which "I" (subject) appears either by itself or with another person (object):

- to love (I, Julia) RSO
- to love (Julia, I) ROS
- happy (I) RSS

If one or two others (objects) are involved independently of the subject, the response is, from the "egocentric" point of view of the CCRT method, less important:

- depressive (Ophelia) ROO (R-Object 1 - Object 1)
- hate (Iago, Othello) ROA (R- Object 1 - Object 2)

We introduced abbreviations to avoid constant repetition of the word "I": ROS and ROO correspond largely with Luborsky's response from others (RO) while RSO and RSS correspond to the dimension response of self (RS). The response types ROS, ROO, RSO, and RSS depend on the same hierarchical predicate system, i.e., each predicate can theoretically occur as each type of reaction. Julia's love for the narrative subject can thus be coded:

ROS-C22 Object Julia

Wishes. Everything that can happen, "I" can wish for, and everything that I wish for can also happen. Romeo can wish that Julia loves him. He could also wish to be hated; such wishes are less frequent but possible. Predicate logic can, when expanded, be applied to the description of wishes: Someone wishes for a reaction. Thus, Romeo's wish to be loved can be coded:

\[ \text{Wish}_\text{Romeo} (\text{love}(\text{Julia}, \text{Romeo})) \]

The CCRT and CCRT-LU methods target the subject's wishes. The index for the wish symbol is always the subject "I" itself:
Wish₁ (love(Julia, I))

This first "I" can therefore be left out, and the wishes can be coded in agreement to the reactions:

WSO-C22, Object Julia.

There are four wish types analogous to the reactions: WOS, WSO, WOO, and WSS (see Table 2).

Please paste Table 2

Scoring with the CCRT-LU Category System

Due to our construction of the CCRT-LU category system on the basis of elements of predicate logic, the list of predicates is common for all component dimensions. It is up to the judge to formulate categories according to the corresponding given predicate (e.g., B23 "helping": WOS "The other should help me", WSO "I want to help the other", ROS "The other helps me", and RSO "I help the other"). If the tailor-made formulations are worded keeping the construction of the predicate language in mind, the task of finding the corresponding components will be simplified. To assign a tailor-made formulation to a standard category, the hierarchical structure of the CCRT-LU category system requires a slightly different approach than the CCRT system. In the CCRT system, the recommended scoring procedure for a wish formulation was, for example, to review the entire list of 34 W standard categories and find the best-fitting and next best-fitting categories.

In the CCRT-LU system, scoring is rendered more efficient by eliminating the prerequisite of reading the entire category list; the judges assign using a top-down procedure. First, the tailor-made formulation is assigned to one of the 13 high-level cluster categories of corresponding content. Second, the corresponding middle-level category is chosen from the two to five categories available. Third, the corresponding low-level subcategory is chosen from the two to eight categories available.
It is important that each predicate is not viewed according to its literal meaning, but that the judges see it within the context of a particular category whose meaning is a combined result of its assigned predicates. For example, the predicate „being calm, patient“ can be one of weakness when viewed in a certain context (e.g., „letting others walk over you“, „letting things happen to you“, „not defending oneself“), while in another context it can be an expression of strength (e.g., „not letting something get the better of you“, „not getting wound up about something“). In the CCRT-LU category system, the predicate „being calm, patient“ is associated with strength and is found under Category D1 „being moderate/truthworthy“ and Cluster D „being self-determined“.

First Testing of the CCRT-LU Category System

To test the new system for the first time, we compared the results of assigning the CCRT categories to the results of assigning the CCRT-LU categories. To assign the CCRT-LU categories, the CCRT-experienced judges were given interview transcripts and the CCRT results of the first judges. They then selected a corresponding category from the subcategories using the procedure described above and identified the component and direction (WOS, WSO, WSS, ROS, RSO, and RSS).

It must be taken into account that the tailor-made formulations of the first judges are oriented towards the CCRT categories. For this reason, the judges were instructed to view the tailor-made formulations in a broader sense and according to content during the second evaluation. All participating second judges stated that they were satisfied with the new category system: The new system was more efficient and facilitated the assignment to the corresponding CCRT-LU category.

Clinical intake interviews: Describing the sample. The transcripts of the clinical intake interviews were taken from a sample of 32 patients from the Clinic of Psychotherapy and Psychosomatic Medicine at the University of Leipzig. The average age was 36 years (Range 18-59, SD 1.6). Seventy-one percent of the
patients lived with a permanent partner and 35% had children. In terms of employment, 35% worked full-time, 14% worked part-time, 31% were not employable, and 20% were unemployed. The mean duration of their main symptoms was 5.4 years (Range 1 - 45 years, SD 8.9). The ICD-10 diagnoses were distributed as follows: 44% of the patients suffered from neurotic, stress-related, and somatoform disorders (F4), 25% had a affective disorder (F3), 22% had behavioral syndromes associated with physiological disturbances and physical factors (F5), and 9% had a disorder of adult personality and behavior (F6).

Reliability of agreement for the CCRT and CCRT-LU categories. In an earlier investigation, a random sample of four interviews was taken from the sample of the 32 clinical interviews and scored by three judges in order to determine the reliability of the CCRT categories. The scoring took place on the level of the standard categories, which were then automatically assigned to the corresponding clusters.

To assess the reliability of the reformulated categories, a random sample of nine interviews was taken from the same sample of 32 clinical interviews and scored by two judges (see Table 3). Unlike the CCRT system, which is based on three components (W, RO and RS), the CCRT-LU system model requires consideration of four main dimensions: WO, WS, RO and RS. The three-dimensional schema was used solely for a comparison of the two systems.

Please insert Table 3

The agreement on CCRT category clusters showed kappas in the fair-to-good range and these were in accordance with other CCRT studies (Zander et al., 1995a, 1995b). In agreement with many other studies, the kappas for the wishes (W) and reactions from the object (RO) were lower than for the reactions of subject (RS). The scoring took place on the level of the standard categories (not on the cluster level) and the procedure differs from the method usually used in
American studies, in which the weighted kappa is based on the most frequent and second-most frequent cluster per interview (Luborsky & Diguer, 1998).

In the CCRT-LU system, the kappas for the high-level categories showed good agreement. Even the middle-level categories reached a fair-to-good agreement. In addition, the directions of subdimensions (WOS-WSO, RSO-RSS) were assigned with a high degree of reliability.

Distribution of the CCRT and CCRT-LU Categories in the Sample

An average of 38 relationship episodes (REs) was found in each of the 32 clinical intake interviews (SD 17, Range 18-106) and marked with an average of 47 wish categories (SD 27, Range 18-169). The W categories were evaluated with an average of 35 WOS categories and 15 WSO categories. Further, an average of 61 categories of response of object (ROS, SD 31, Range 19 - 182) and 70 response of subject (RO, SD 37, Range 26 - 226) were marked. We included the direction subdimensions and found an average of 45 RSO categories and 27 RSS categories. The judges were asked during the first evaluation to limit their scoring to the wishes of subject directed at object. Thus, the marking for the components WOO, WSS, and ROO was negligible. Hence, further coding was limited to the components WOS, WSO, ROS, RSO, and RSS.

The following findings regarding the distribution of CCRT and CCRT-LU categories are not presented in full detail. Detailed results can be acquired through the authors.

Wishes in CCRT. The scoring of the CCRT categories showed that the most frequent response was Wish Cluster 6, "to be loved and understood"; mean relative frequency (computed over patients in the sample) is 30.1 percent, with standard deviation 14.9. The next most frequent wish clusters expressed were W-c5 "to be close and accepting" (18.7), W-c3 "to be controlled and hurt" (17.4), and W-c4 "to be distant" (12.0).

Wishes in CCRT-LU. We found a similar distribution in the scoring of the component WOS using the CCRT-LU categories: WOS-A "the others should attend to me" determined 50 percent of all wishes directed at the object, followed
by the next most frequent, WOS-B "the others should support me" (22.5), and WOS-C "the others should love me" (18.8). The difference in frequency was less for the component WSO: The most frequent cluster was WSO-M "I wish to withdraw from others" (19.5), followed by WSO-C "I wish to love others"; (18.9), WSO-D "I wish to be self-determined" (15.0), WSO-B "I wish to support others" (14.0), WSO-J "I wish to reject others" (11.8), and WSO-A "I wish to attend to others" (11.5).

Responses from others in CCRT. By far the most frequent CCRT response from others was RO-c5, "the others reject and oppose me" (42.2). The next most frequent cluster categories were RO-c3, "the others are upset with me" (13.5) and RO-c2, "the others are controlling me" (10.6).

Responses from others in CCRT-LU. When the CCRT-LU categories were used as the measure, the others were described most frequently as "unreliable" (ROS-I; 21.3). Other categories with a high level of frequency were ROS-J "the others reject me" (19.4) and ROS-K "the others dominate me" (13.9).

Responses of self in CCRT. Using the CCRT system, the most frequent response of subject was RS-c7 "I feel disappointed and depressed" with 30.0 percent. The next most frequent categories were RS-c6 "I feel helpless" (18.6) and RS-c3 "I feel respected and accepted" (12.6).

Responses of self in CCRT-LU. The incorporation of subdimensions in the CCRT-LU system led to a considerably higher level of differentiation. Five categories showed a similar frequency for the reaction of subject directed at object: RSO-G "I feel determined by others" (19.6), RSO-M "I withdraw from others" (16.0), RSO-C "I feel loved by others, I feel well with others" (14.8), RSO-F "I feel scared of others" (12.8) and RSO-H "I am angry at others" (12.7). The highest frequency in the RSS dimension is Cluster E "I am depressed" (37.2) and Cluster F "I am dissatisfied, scared" (23.3).

Scoring the central theme in CCRT and CCRT-LU. Each patient’s narratives were scored for the most frequent CCRT and CCRT-LU categories. The CCRT for the majority of the patients was: "I want to be loved and understood" (18 out
of 32 patients expressed W c6 as the most frequent wish), "the others are rejecting me" (RO-c5, 29 out of 32 patients), and "I am disappointed and depressed" (RS-c7, 23 patients).

We applied the CCRT-LU categories and found that the central theme for most patients by the WOS component was: the wish for attention from the object (26 patients). The most frequent categories for the WSO components and the RSO and ROS components vary. Six patients expressed the wish to withdraw (WSO-M) and six another patients expressed the wish for love and feeling well (WSO-C) most frequently; four patients expressed the wish to be self-determined (WSO-D) most frequently. For the RSO component, the majority of the patients expressed the response "the others are unreliable" (RSO-I, 13 patients) and "the others reject me" (RSO-J, 9 patients) most frequently. For the response of subject directed at object, 7 patients expressed "I feel determined by others" (RSO-G), 6 patients "I love the other and feel well with him" (RSO-C) and 3 patients "I am scared of the other" (RSO-F) and I am angry at the other" (RSO-H) as their most frequent response. The most frequent response of subject directed at subject was "I am depressed" (RSS-E, 16 patients) and "I am scared" (RSS-F, 8 patients).

Discussion

The aim of our study was to reformulate the German version of the CCRT category structure. The final CCRT-LU category list contains 13 cluster categories at the highest level, 30 categories at the middle level, and 119 subcategories at the base level; it is structured using elements of predicate logic. The 119 subcategories were chosen using empirical and theoretical sources; therefore, there was no reduction to theoretical axes. The CCRT-LU category list thus combines the advantages of both a theoretically and empirically based system.

One development of the CCRT-LU system that constitutes a major difference in comparison to the CCRT system is the introduction of subdimensions of direction that allow for a classification of object-directed and subject-directed wishes and responses. This classification results in four main component
dimensions (WO, WS, RO, RS) that are then classified under eight subdimensions according to the direction (WOO, WOS, WSO, WSS, ROO, ROS, RSO, RSS).

All of these dimensions are coded using the same hierarchically structured predicate list. Responses of subject and object are analogous, as are wishes of subject and object, and there is a complete analogy between wishes and responses of the object and subject. The four dimensions of this structure do not imply a complete break with Luborsky’s method. In the CCRT method, object and subject-directed wishes can be found (e.g., W SK 1 "I want to be understood", W SK 12 "I want to help others"). In the CCRT-LU system, these inner analogies are systematically and explicitly structured within the wish axes.

We created the list with the understanding that certain elements of the system would occur with low frequency during application. Our aim was not to maintain a similar frequency across all 13 high-level categories for all four dimensions WO, WS, RO, and RS; this is principally not possible. Due to the hierarchical structure and the analogy between the components, the application of the CCRT-LU system should economize on time and effort.

The CCRT-LU system has a large set of categories: 119 low-level subcategories, with a total of 162 categories when all three levels are taken into account. The CCRT system, in comparison, contains 95 standard categories with a total of 120 categories. Due to the hierarchical structuring of the CCRT-LU system, the judge is not required to read the entire list of categories to translate the tailor-made formulation into a standard category, but can assign the category top-down. Therefore, the large number of categories does not present a problem. Moreover, the three levels of the category structure allow the judge to choose the adequate hierarchical level and thus the number of required categories (13 high-level, 30 middle-level, or 119 low-level categories) for each study.

The first empirical application showed that the CCRT-LU system has a distinct advantage over the CCRT system in terms of respecting the individual differences of each patient when scoring for the most frequent categories. The scored REs showed a considerably higher degree of agreement using CCRT-LU
system, and the judges stated that the system was easier to learn and more efficient in application.

We introduced the direction of dimension for the wish, response from others, and response of self (WOS, WSO, WSS, ROS, ROO, RSS, RSO). Our study indicated that this refinement of CCRT dimensions was relevant, particularly in terms of the W and RS components: Depending on whether the object-directed or the subject-directed wish or response was being investigated, themes of differing content were found.

In studies regarding the correlation between the central relationship patterns and the attachment prototypes (Albani, Blaser, Körner, Geyer, & Strauss, submitted for publication; Albani, Blaser, Pokorný et al., 2001), the CCRT-LU categories allowed for a higher degree of differentiation when describing attachment prototypes than the CCRT categories. The application of the CCRT-LU categories to a comprehensive single-case study (Pokorný et al., in preparation) indicates that a considerably higher level of differentiation is also achieved when describing procedures and analyzing object-specific relationship patterns.

Further empirical research of the CCRT-LU system is required and desired. The CCRT-LU system can lend support to the SASB method as well as to other methods of evaluating interpersonal structures. The CCRT-LU could create a basis for a uniform and formal language across methods. It is hoped that the CCRT-LU category system will play an active part in future investigations and clinical application.
References


Table 1

*Similarity Ratings and Reliability for Paired-Predicates Assigned by Five Judges*

<table>
<thead>
<tr>
<th>Judge</th>
<th>Similarity Ratings for Paired-Predicates*</th>
<th>Intra-Rater Reliability</th>
<th>Inter-Rater Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Synonym Strong Doubtful No Unweighted Weighted Unweighted Weighted</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>similarity similarity similarity kappa kappa kappa kappa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>6 170 559 9365 .59 .59 .51 .45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>32 548 303 9217 .46 .48 .47 .42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>2 163 423 9512 .53 .53 .48 .42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>11 268 555 9266 .59 .60 .53 .48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>146 356 313 9285 .49 .46 .51 .43</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*n=10, 100 ordered pairs from 101 predicates*
### Table 2

*Dimensions of the CCRT-LU Category System*

<table>
<thead>
<tr>
<th></th>
<th>W</th>
<th></th>
<th>R</th>
<th></th>
</tr>
</thead>
</table>
| **WO** | "The other should (…)." | **WS** | "I want to (…)." | **RO** | "The other does (…)." | **RS** | "I do (…)."
| WOO   | "The other should (…) to him/herself or other." | WOS   | "I want to do (…) to the other." | WSS   | "I want to do (…) to me." |
| ROO   | "The other does (…) to him/herself or other." | ROS   | "I do (…) to the other." | RSO   | "I do (…) to me." |
| RSS   | "I do (…) to me." |
Table 3

Kappa Values for Scoring the Tailor-Made Formulations using the CCRT Categories (3 Judges) and the CCRT-LU Categories (2 Judges)

<table>
<thead>
<tr>
<th>CCRT categories**</th>
<th>CCRT-LU categories***</th>
</tr>
</thead>
<tbody>
<tr>
<td>ratings clusters</td>
<td>standard categorie</td>
</tr>
<tr>
<td></td>
<td>high level</td>
</tr>
<tr>
<td></td>
<td>middle level</td>
</tr>
<tr>
<td></td>
<td>direction</td>
</tr>
<tr>
<td>n</td>
<td>8 W</td>
</tr>
<tr>
<td></td>
<td>34 W</td>
</tr>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td></td>
<td>13 clusters</td>
</tr>
<tr>
<td></td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>WOS-WSO categories</td>
</tr>
<tr>
<td>8 RO</td>
<td>30 RO</td>
</tr>
<tr>
<td>8 RS</td>
<td>30 RS</td>
</tr>
<tr>
<td>W</td>
<td>187</td>
</tr>
<tr>
<td></td>
<td>.48</td>
</tr>
<tr>
<td></td>
<td>.42</td>
</tr>
<tr>
<td></td>
<td>345</td>
</tr>
<tr>
<td></td>
<td>.66</td>
</tr>
<tr>
<td></td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td>.60</td>
</tr>
<tr>
<td>RO</td>
<td>228</td>
</tr>
<tr>
<td></td>
<td>.47</td>
</tr>
<tr>
<td></td>
<td>.37</td>
</tr>
<tr>
<td></td>
<td>459</td>
</tr>
<tr>
<td></td>
<td>.65</td>
</tr>
<tr>
<td></td>
<td>.58</td>
</tr>
<tr>
<td></td>
<td>*</td>
</tr>
<tr>
<td>RS</td>
<td>216</td>
</tr>
<tr>
<td></td>
<td>.65</td>
</tr>
<tr>
<td></td>
<td>.52</td>
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<tr>
<td></td>
<td>489</td>
</tr>
<tr>
<td></td>
<td>.63</td>
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<tr>
<td></td>
<td>.56</td>
</tr>
<tr>
<td></td>
<td>.54</td>
</tr>
</tbody>
</table>

* The response of object was assigned almost exclusively to ROS; the reliability for the direction ROO-ROS was not evaluated

** n=187 W, n=228 RO, n=216 RS

*** n= 345 W, n= 459 RO, n= 489 RS
## Appendix

### Predicates of the Reformulated CCRT Category System

<table>
<thead>
<tr>
<th>Category</th>
<th>Attending to</th>
<th>Exploring, admiring</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>I.</td>
<td>A1.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>being curious, being interested, exploring, being active, being motivated, being open</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A12.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>sorting oneself out, searching, standing up for something</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A13.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>considering capable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A14.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>admiring, being impressed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A15.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>being enthusiastic, being fascinated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A16.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>identifying oneself, being like the other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Accepting, understanding</th>
<th>A2.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>being curious, being interested, exploring, being active, being motivated, being open</td>
<td></td>
</tr>
<tr>
<td></td>
<td>sorting oneself out, searching, standing up for something</td>
<td></td>
</tr>
<tr>
<td></td>
<td>considering capable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>admiring, being impressed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A15.</td>
<td>A2.</td>
</tr>
<tr>
<td></td>
<td>being enthusiastic, being fascinated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>identifying oneself, being like the other</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Supporting</th>
<th>Explaining, confirming</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>being curious, being interested, exploring, being active, being motivated, being open</td>
<td></td>
</tr>
<tr>
<td></td>
<td>standing by someone, praising, agreeing, inspiring, encouraging</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being generous, spoiling, preferring</td>
<td></td>
</tr>
<tr>
<td></td>
<td>helping, standing up for someone</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Caring, Feeling Well</th>
<th>C2.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>being close, accepting, being intimate, providing for, being good, being loved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being close, accepting, being intimate, providing for, being good, being loved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being close, accepting, being intimate, providing for, being good, being loved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being close, accepting, being intimate, providing for, being good, being loved</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Being Self-Determined</th>
<th>D1.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>being moderate (out of strength), trustworthy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being thankful</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being tolerant, being willing to compromise</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being considerate, being polite, being moderate, being modest</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being calm, being patient</td>
<td></td>
</tr>
<tr>
<td></td>
<td>bearing, enduring, standing, coping</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being trustworthy, being honest, being reliable, being faithful, treating fairly, being correct</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being sensible, being constructive</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Being Self-Determined</th>
<th>D2.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>being proud, being autonomous</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being strong, being superior, being important, being courageous, deciding</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being capable, being experienced, being successful, being proud</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being ambitious, being conscientious</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being a role-model, being perfect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being independent, being self-sufficient</td>
<td></td>
</tr>
<tr>
<td></td>
<td>being sure of oneself, having trust in oneself, being self-confident</td>
<td></td>
</tr>
<tr>
<td></td>
<td>having self control, being thoughtful, being skeptical, being self-critical</td>
<td></td>
</tr>
<tr>
<td></td>
<td>changing, developing, improving</td>
<td></td>
</tr>
</tbody>
</table>

---

| II. disharmonious | E. Being Depressed, Resigning to sth. | E1. being disappointed | E11. being unhappy, being depressed, being disappointed  
E12. despairing, suffering, grieving |
|------------------|--------------------------------------|------------------------|-------------------------------------------------------------------------------------|
| E2. resigning oneself to something | E21. giving up, resigning  
E22. being indifferent, being bored, being apathetic, being sluggish |
| F. Being Dissatisfied, Being Scared | F1. feeling guilty, ashamed, being dissatisfied | F11. feeling guilty, regretting  
F12. shaming oneself  
F13. feeling unwell, feeling dissatisfied  
F14. feeling frustrated |
| F1. feeling guilty, ashamed, being dissatisfied | F2. being scared, anxious | F21. being anxious, being scared, being worried, avoiding, being cowardly  
F22. being unsure, being confused, being indecisive  
F23. being nervous, being hysterical, being tense, being unrestrained  
F24. being shocked, being outraged, feeling caught in the act |
| F2. being scared, anxious | G. Being Determined by Others | G1. being dependent | G11. being alone, missing someone, being lonely  
G12. being dependent, clinging  
G13. not being self-sufficient, being self-insecure  
G14. being passive, doubling, persisting, stagnating, worsening |
| F2. being scared, anxious | G2. being weak | G21. being weak, being helpless, being without rights, being exposed, being unprotected, being inferior, being injured  
G22. being incapable, being inexperienced  
G23. disappointing someone, being overstrained, failing  
G24. being low, being unimportant, being restrained, being ugly  
G25. being moderate (out of weakness) |
| F2. being scared, anxious | G. Being Determined by Others | G1. being dependent | G11. being alone, missing someone, being lonely  
G12. being dependent, clinging  
G13. not being self-sufficient, being self-insecure  
G14. being passive, doubling, persisting, stagnating, worsening |
| F2. being scared, anxious | G2. being weak | G21. being weak, being helpless, being without rights, being exposed, being unprotected, being inferior, being injured  
G22. being incapable, being inexperienced  
G23. disappointing someone, being overstrained, failing  
G24. being low, being unimportant, being restrained, being ugly  
G25. being moderate (out of weakness) |
| F2. being scared, anxious | G. Being Determined by Others | G1. being dependent | G11. being alone, missing someone, being lonely  
G12. being dependent, clinging  
G13. not being self-sufficient, being self-insecure  
G14. being passive, doubling, persisting, stagnating, worsening |
| F2. being scared, anxious | G2. being weak | G21. being weak, being helpless, being without rights, being exposed, being unprotected, being inferior, being injured  
G22. being incapable, being inexperienced  
G23. disappointing someone, being overstrained, failing  
G24. being low, being unimportant, being restrained, being ugly  
G25. being moderate (out of weakness) |
| G. Being Determined by Others | H. Being Angry, Unlikable | H1. feeling disgust, being angry | H11. feeling disgust  
H12. feeling contempt  
H13. being jealous, being envious  
H14. being hurt, being offended  
H15. not liking  
H16. being angry, being enraged, being frustrated by something  
H17. hating |
| H1. feeling disgust, being angry | H2. being disliked | H21. being resentful, being impatient  
H22. being stingy  
H23. being unlikable, being disliked, being uninteresting  
H24. being unfriendly, being unthankful, being impolite |
| H2. being disliked | I. Being Unreliable | I1. neglecting | I11. being insensitive, having no understanding, being destructive, being foolish, being uncontrolled  
I12. neglecting, abandoning, being superficial, being irresponsible, being heartless, being lazy |
| I1. neglecting | I2. being selfish | I21. being self-satisfied, being uncritical  
I22. being dishonest, being unfair  
I23. being egoistical, being selfish, being greedy |
| I1. neglecting | J. Rejecting | J1. ignoring, reproaching | J11. unnerving, disheartening, undermining, being disinterested, ignoring  
J12. blaming, reproaching, accusing |
| J1. ignoring, reproaching | K. Subjugating | K1. being bad | K11. being bad, exploiting, cheating, betraying, denying, stealing  
K12. ingratiating, intriguing, deceiving |
| K1. being bad | K2. dominating | K21. committing, prescribing, influencing, pressurizing, demanding, forcing to do something  
K22. dominating, asserting, repressing, debasing, subjugating, disadvantaging, controlling, test someone, being strict |
| L. Annoying, Attacking | L1. annoying someone | L11 hurting, offending, embarrassing, making ridiculous, humiliating  
L12 being malicious, being cynical, laughing at someone  
L13 annoying, harassing, inhibiting, bothering someone  
L14 disturbing, distracting  
| L2. attacking | L21 scaring, threatening, attacking, provoking  
L22 tormenting, injuring, hostile, breaking  
L23 punishing, taking revenge, destroying, being violent  
L24 abusing, raping  
| M. Withdrawing | M1. retreating, being reserved | M11 leaving, distancing, demarcating  
M12 keeping one's distance, retreating, withdrawing  
M13 being distrustful  
M14 avoiding conflict, being conforming, being complaisant, giving in, being submissive  
M15 being withdrawn, keeping quiet  
M16 being reserved, being shy  
M17 being compulsive  
M18 having no children, not having a relationship  
| M2. being sexually inactive | M21 being disinclined, being acquiescent  
M22 being inhibited, not being aroused, being impotent  
M23 being sexually inexperienced  
| M3. being ill | M31 being exhausted, being tired  
M32 having symptoms  
M33 being physically ill, being mentally ill  
M34 dying, killing oneself |