Couple Support Schemata in Couples With and Without Spinal Cord Injury

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Abstract
This article describes the cognitive schemata of couples’ support relationships among 65 couples in which the husband had a long-term spinal cord injury and 65 couples without disability. The structure of the support relations schemata were examined by means of smallest-space analysis. Similarities between men and women in couples with and without disability reflect common themes in schemata of interpersonal support in couples, whereas disparities between the groups reflect differences in the life circumstances of the men with disability and their wives. It appears that in couples who are living with disability, the support needs contribute to the shaping of the cognitive representation of support in accordance with the situation.

Keywords
disability; adjustment; adaptation; issues

Social support in couples is a basic and necessary constituent of the relationship, in that it contributes to the partners’ emotional well-being while strengthening the marital bond (Beach, Fincham, Katz, & Bradbury, 1996; Bodenmann, 2005; Cutrona, 1996; Pasch, Bradbury, & Sullivan, 1997). The quality of support in couples is determined by the spouses’ ability to create a natural system of mutual strengthening in both acute and long-term stress situations. Indeed, spousal support has been found to be more important, more available, more stable, and more effective than any other kind of support, including that of siblings, parents, and friends (Brown & Harris, 1978; Burke & Weir, 1982).

Whereas satisfactory support relations in couples result from good marital relations and nurturing, in the long run, they contribute to the quality and stability of the relationship (Bodenmann, 1995; Cutrona, Russell, & Gardner, 2005; Revenson, Kayser, & Bodenmann, 2005). Support between spouses enhances and strengthens a sense of trust and security in the relationship because it is an essential process of interaction, sharing, and loyalty and so creates a sense of commitment to the growth of the relationship. When couples face disability and severe illness, particularly of a chronic kind, couple support has unique characteristics because of the special challenge arising from the asymmetric nature of the give-and-take involved in some of the support components.

The current study focuses on one element of couple support relationship: the schema represented by metacognition of support in couples. Cognitive schemata are considered to be relatively stable (Kelly, 1955; Piaget, 1950), but they may also change as a result of special life situations or by means of significant interpersonal interactions (Azar, Nix, & Makin-Byrd, 2005; Beck, 1967; Dattilio, 2005; Tilden & Dattilio, 2005). In the present study, we examine the extent to which the schema of support within couples is shaped by life circumstances that alter the structure of couple support. Specifically, we examine support schemata of both spouses in two groups of long-standing marriages: one with severe physical disability and one without. We ask, in what ways would the support schemata of people with long-term disability reflect their unique life experience? Would the schemata of persons with disability and their spouses differ from those living without disability?

When a spouse with long-term disability uses a wheelchair, we would expect this situation to be manifested in the partners’ metacognition and in the working model of reciprocal support between spouses.

Couples Coping With Spinal Cord Injury
Severe spinal cord injury can be manifested in complete or partial paralysis of two or four limbs, in complete or partial loss of limb sensation, and in disturbance in the functioning of various physiological systems, such as digestive, urological, and sexual. The injury is highly visible, with University of Haifa, Israel
external manifestations and slow, drawn-out physiological weakening (Crewe & Krause, 1988; Trieschmann, 1987). This chronic situation poses continuing challenges to the couple (Rolland, 1994).

Normally, spouses coping with stressful situations provide each other with emotional and physical assistance (Bodenmann, 1997). Long-term disability, however, necessitates prioritizing the needs of the person with disability, giving preference to the continuing decrease in functioning that accompanies disability and chronic illness. Indeed, the research about marital relationships involving spinal cord injury primarily relates to the couple relationship as a resource for the person with disability (Krause & Crewe, 1991; McGowan & Roth, 1987). Marital functioning and satisfaction have also been examined from the perspective of the person with disability (Crewe & Krause, 1990, 1991; DeVivo & Fine, 1985).

Despite this focus on the support needs of the person with disability, research on couples who are coping with serious illness shows that the active giving of emotional support by the partner with disability to the other partner contributes to the well-being of both spouses and to the quality of their marriage (Pasch et al., 1997; Wright & Aquilino, 1998). It is therefore important to understand how reciprocal couple support operates in these conditions. As a cognitive system, support schema is an important element for our understanding of how couple support is managed, organized, consolidated, and preserved when the couple is living in a situation of long-term disability.

**Support Schemata of Couple Support**

Pierce, Sarason, and Sarason (1996) described couple support on three levels: schema of support, which refers to the individual’s trust in human beings and a general attitude toward the self and others regarding social support; the availability of support, which describes a feeling that a support system exists that will provide assistance in time of need; and the supportive behaviors that are provided in time of need. Each level contributes to how the couple interaction is structured.

The support schema “encompass one’s expectations about the forthcomingness of the social environment in providing aid, should one need it” (Pierce et al., 1996, p. 5). They take shape in the course of individuals’ development in their early experiences with the environment, and they are analogous to Bowlby’s concept (1980) of the attachment working model in that they influence information processing in social interaction.

Schemata are a central part in the development of an individual’s cognitive mechanism and its connection to one’s emotions and behaviors (Beck, 1967, 1976; Kelly, 1955). They appear to shape information processing in interpersonal relationships and communication (Baldwin, 1992; Epstein & Baucom, 2002), and they contain the knowledge of how to manage in situations that require support. Support schemata involve notions about expectations with regard to giving and receiving behaviors, and they motivate giving and receiving support in a relationship (Pierce et al., 1996). There is evidence that support schemata predict individuals’ abilities to adjust in life situations in general and in couple relationships in particular (Pierce et al., 1996; Sarason, Sarason, & Pierce, 1990). Furthermore, individuals who are able to perceive the other as one whom they can trust tend to be more social in new situations and they are able to activate the other to provide support in new social settings (Lakey & Dickinson, 1994).

In addition to being a cognitive working model, the support schemata are part of a circular process of social interactions. During such interactions, the schemata not only shape the support relations but depend on them. Moreover, in couple and family relationships, the schemata constitute more than the individual members’ belief systems; there is a reciprocal influence between the different family members’ schemata, thereby leading to the development of shared belief systems in the family (Dattilio, 2001, 2005). These shared schemata become a resource for problem solving as well as for resolving conflicts within the family and for coping with stressful situations.

In an earlier work (Gilad, Lavee, & Innes-Kenig, 2008), we found a strong connection among support schemata, support behaviors, and emotions among couples with disability. Support schemata were found to have a mediating role between perceptions of actual support behaviors and response to the provided support. Also, among couples who live with disability (as compared to couples without disability), the support schemata have a role in regulating negative reactions to situations in which support needs are not met.

In the current study, we explore the structure of support schemata in couple relationships. We compare the structures of the schemata among couples with and without long-term disability, whose different needs for support may be reflected in the support schemata.

**Method**

**Participants**

The sample consisted of 130 couples in two groups: couples with disability and those without. The couples-with-disability group included 65 couples, in which the husband was a veteran who had sustained a spinal cord injury between the age of 18 and 22 years during his compulsory military service and was presently using a wheelchair for mobility. As defined by the medical committee of the Rehabilitation Section of the Israel Defense Ministry, the husband’s level of disability had been 100% at least 10 years after the injury. All married veterans with a similar injury (n = 170) were...
approached through the Rehabilitation Section. Of these, 65 (38%) responded positively and returned completed questionnaires. The mean age of the veterans was 51.2 years (SD = 10.0), and the duration of their disability ranged from 10 to 54 years (M = 27.0, SD = 10.0). The mean age of the wives was 48.7 years (SD = 10.8). The couples had been married for a mean of 23.9 years (SD = 11.2) and had a mean of 2.8 children (SD = 1.2).

The comparison group consisted of 65 couples without disability. They were recruited via participants in the former group, who were asked to provide the names of couples at a similar stage in life. All couples who were referred to the researchers by their friends (i.e., the couples with disability) initially agreed to participate in the study. Their background characteristics were similar to those of the other group: The mean ages of the husbands and wives were 53.6 and 50.6 years (SD = 7.5 and 6.5), respectively. Couples had been married for a mean of 26.7 years (SD = 8.7) and had a mean of 3.1 children (SD = 0.9).

Procedure

Invitations to participate in the research were sent to all veterans who met the inclusion criteria: having severe spinal cord injury and being married. Inclusion depended on the agreement of both spouses, who had to fill out the questionnaire separately. This was validated in a follow-up phone call. Potential participants were given a detailed description of the study and were asked to fill out a consent form. Questionnaires and stamped return envelopes were mailed to those who agreed to participate. A similar procedure was followed with participants in the comparison group. After obtaining their names and phone numbers, the researcher called and asked them to participate. Questionnaires and stamped return envelopes were sent to those who agreed.

Research Instruments

The couple support schemata questionnaire is a subscale of a more comprehensive instrument, the Couple Support Inventory (Gilad et al., 2008). The Couple Support Inventory is based on a mapping sentence that defines the universe of content from couple support relationships and so measures specific qualities of couples’ exchange of support: the existence, quality, and quantity of emotional, instrumental, and informational support; its dimensions (schemata, availability, and behavior); and its causes, characteristics and outcomes. The instrument consists of 83 items that form five subscales: schemata of couple support, availability of support, support behaviors, response to received support, and alternative (i.e., external) sources of support. As expected, a smallest-space analysis (SSA) of the Couple Support Inventory items identified schemata as a separate facet, which appeared to mediate between supporting behaviors and response to received support (Gilad et al., 2008).

The subscale measuring schemata consists of 21 items (see Appendix A) that examine attitudes toward couple support. Items reflect two notions: one, that support is expected in couple relationships and that it strengthens both the help provider and the relationship (e.g., “Couples tend to help each other in daily matters,” “Supporting another person empowers the support provider”); two, that support is provided at the expense of the provider (e.g., “When one supports another person, one does so at the expense of things one could have done for oneself”). Items also examine beliefs regarding internal support—that is, that support should be sought and provided within the couple relationship (e.g., “When they need help, most people turn to their spouses”)—as well as external support (e.g., “There are various situations in which it is preferable to turn for assistance to someone else and not to the spouse”). Attitudes toward the source of support (i.e., from inside the couple or from external sources) are examined with respect to emotional, instrumental, and informational needs. These items enabled us to examine the schemata of couple support between people in general and between intimate partners in particular. Response categories range from 1 (strongly disagree) to 6 (strongly agree). In the current study, the internal consistency reliability (Cronbach alpha) of the scale was .73 for men and .77 for women.

The subscale items measuring schemata were constructed on the basis of the definition and description of couple support schemata (Pierce et al., 1996), as well as in-depth interviews conducted with five couples with severe disability and five couples without disability. In each couple, the partners were interviewed separately and were asked to describe life situations in which they requested, received, or gave assistance in the relationship. They were asked to describe the concept of support relations—particularly within the couple, how they help each other, and what help they consider to be truly valuable. Interview transcripts were analyzed qualitatively and grouped into categories that served as a basis for the questionnaire items. In the next stage, 11 family professionals (experienced social workers) served as independent judges. They were asked to evaluate the clarity of items and the extent to which each item related to each support dimension (i.e., schemata, availability of support or support behaviors). The final version of the questionnaire contained only those questions on which there was agreement of 90% or more among the judges.

Analysis Strategy

The data were analyzed by means of SSA, which is the basic component for the method of facet theory (A. L. Guttman, 1968). Specifically, SSA is a method of
multidimensional scaling, in which the sets of the variables and their nonmetric intercorrelations are displayed in a multidimensional geometric space (A. L. Guttman, 1968; R. Guttman & Greenbaum, 1998). Each variable (i.e., item in the questionnaire) is represented as a point in Euclidean space, in such a way that the higher the correlation between two variables, the closer the two corresponding points in space. The analysis takes into account the relations between all the variables on the map, and it produces an optimal solution of their relationships—that is, one that best and most closely reflects the relations between all the variables. When SSA is used inductively, the map indicates the “rules” according to which the items are clustered in a geometric form, thus revealing universes of meaning within the conceptual space being investigated. The goodness of fit between the geometric representation and the original input similarity data is measured by a coefficient of alienation (A. L. Guttman, 1968). The coefficient of alienation ranges between 0 and 1 (with 0 indicating a perfect fit); a coefficient of .20 or lower is considered adequate (Shye, Elizur, & Hoffman, 1994).

SSA and factor analysis share some common characteristics in that they both identify clusters of items by finding interrelated groups of correlation coefficients. However, whereas the goal of factor analysis is data reduction, SSA attempts to find the structure in a set of distance measures between objects. Elizur (1991) notes that SSA is more suitable than factor analysis for identifying the structure of data, namely, because classification of a large number of variables into factors based on a variety of rotational criteria may obscure the relationships between variables, both within and across factors. Additionally, SSA is less sensitive than factor analysis to measurement difficulties and can reveal more fundamental order relations. Thus, it is more useful in identifying the general configuration of a domain, and it enables better comprehension of the research phenomenon. By inspecting the SSA map, the researcher attempts to discover correspondence between the item contents and their locations. SSA permits structuring the investigated concept by suggesting systematic partitioning of the space into content regions. The structure of the relationships among items is examined by considering the configuration of the points. The division into regions is accomplished by introducing partition lines. Various laws of correspondence between regions of the SSA space have been defined (Elizur & Guttman, 1976; Levy, 1985; Shye et al., 1994), including axial partitioning, in which the map is partitioned into parallel strips, with each containing items of one class; radex partitioning, made up of several concentric circles; polar partitioning; and others. It should be noted, however, that these laws have no empirical validation; there are many other ways of partitioning the distribution of items on a map. The best set of partition lines is identified as the one having the smallest deviations of items from the predicted regions (Shye et al., 1994).

In the current study, we analyzed the relations between items of the couple support schemata for each of the four groups separately, to reveal the manner in which these schemata are represented by men and women in couples with and without disability.

Results

Because of their complicated nature and the inductive approach to this study, the SSA findings are presented with a discussion of their meanings. The item correlation matrices for the four groups are shown in Appendix B. Figure 1 shows the schemata-mapping structures in each group. The coefficients of alienation were .16 and .13 for the maps of men and women in couples with disability, respectively, and .12 for both men and women in couples without disability. These coefficients indicate a reasonable fit of the geometrical representations to the input similarity data.

As can be seen in the figure, the maps disclose different polarity and proximity structures in the clustering of the data—that is, relations among elements of the support schemata in the various groups. For the sake of clarity, we first examine their commonalities, then their differences and distinctions.

The common schemata characteristic in the four research groups is manifested in the division of the content universe into three areas: perception of the support as strengthening the couple relations; preference for intracouple support; and support from alternative, external sources. The universal characteristic of the support schemata appears in the similar clustering of items in the four groups. In all the groups, the perception of support as strengthening couple relations is reflected in the items denoting an attitude that support has to be mutual and balanced, that it is essential in couple relations, that it defines the quality of the relationship by its very existence, and that it strengthens the support provider (Items 9, 10, 14, 17). These perceptions are also connected to more generalized perceptions that appear close to them on the map.

They suggest that support strengthens mutuality in couple relations (Item 20), that it is important to support family members (Item 18), and that the capacity to give support derives from personal characteristics and from the support received during childhood (Items 19 and 21).

In all the groups, preference for support within the couple is expressed by the clustering of items that denote a perception that support of all kinds (emotional, instrumental, and informational) is a goal of the relationship (Items 1–7). Beliefs about support from external sources appear in the clustering of items that refer to either the possibility of obtaining support (emotional and instrumental) from outside the couple or a preference for it (Items 13, 8, 11). In
addition, the content universe according to which giving support weakens the supporter (Items 15 and 16) is clustered in all four groups, but there is a distinct difference in the space where this dimension appears between men with disability and the three other groups (men without disability and the wives of husbands with and without disability). The difference between the three groups without disability and the group of men with disability is manifested in the different structure of the facets, thus reflecting differences in the support schemata. The maps of the groups without disability appear to be axial, whereas for men with disability, the map appears to be polar. The axial maps of the three groups without disability distinguish between four facets: two axial areas in the center of the map, one representing the belief that support strengthens couple relationships and the other illustrating that it weakens relationships; then, two axial areas on the sides, one representing preference for support within the couple and the other for support from outside the couple. Attitudes that perceive support as strengthening the couple are related to (i.e., are closer to) those expressing preference for couple support; attitudes that perceive support as weakening the couple relations are more closely related to preference for using external support resources.

The polar map of men with disability is divided into three areas: a belief that support strengthens the couple relationship; a preference for support from within the couple; and beliefs about support from outside the couple. Unlike in the other three groups, the perception that support weakens couple relations (Items 15 and 16) does not appear for men with disability as a separate content of universe; rather, it is merged with the facet of support from resources outside the couple.

The differences between the four groups reflect differences in the participants’ perceptions of couple support relations and its role in the relationship. Two major differences exist between men with disability and men and women without disability: perceptions regarding sources of support and perceptions of the weakening or strengthening outcomes of support. Some differences are also found between couples living with and without disability.

Support from within the couple and from external sources.

For men and women without disability, the structural separation between sources of support reflects a clear distinction:
Support is preferred either from inside the couple or from sources outside the relationship. Conversely, for men with disability, the preferences concerning source of support are not as differentiated. For these men, both sources of support may coexist and complement each other, serving different needs; that is, one source does not render the other superfluous.

**Support as weakening and as strengthening.** The second difference between the group with disability and the three groups without disability appears in the perception that support may be provided at the expense of the provider and that it therefore weakens the couple relationship. In the three groups without disability, the perception of support as weakening stands for itself and is differentiated from the perception of support as strengthening. Conversely, in the group with disability, the perception that support weakens the provider and the relationship appears within and as part of the preference for support from alternative sources, outside the couple. Perhaps, when a man with disability perceives his spouse’s support as coming at his own expense, seeking support from external sources (e.g., friends, extended family, social services, or caregiver) serves to maintain the relationship. This attitude to couple support may have been consolidated during a life of coping with disability, as a result of the intensity of the functional help that the person with disability receives from the spouse. In this sense, the perception of potential support from the spouse is conditional on the preservation of the support provider’s resources and the positive value of support in the couple relationship.

**Support schemata in couples with and without disability.** A difference is also found between the wives of men with disability and those of men without disability. It is most evident in the mix of the former group’s perception of support as strengthening couple relations and its preference for support within the couple when faced with other alternatives. It may be that the views of the spouses of men with disability lean on the perception of a reciprocal relationship system in which couple support is not only expected but is something that strengthens the provider. Couples living with disability thus manifest a particular mix of perceptions of support as weakening and strengthening the couple relationship, as well as a positive value of couple support vis-à-vis the legitimacy of support from alternative, external sources.

As noted earlier, men with disability associate their perception of support as being potentially weakening when receiving support from outside the couple, whereas their wives relate the perception of support as being strengthening to a positive value of couple relationships. This characteristic of the schemata in couples who live with disability may reflect a cognitive coping strategy: maintaining the positive value of couple support to preserve the relationship while preserving the well-being of the provider and the receiver of support.

**Discussion**

The findings of the current study suggest that cognitive structures about couples’ support relationships, much like other cognitive “working models,” are relatively stable but may change under special life circumstances and so adapt through couple interaction (Baldwin, 1992; Dattilio, 2001, 2005; Epstien & Baucom, 2002; Pierce et al., 1996). Although the differences found between couples with and without disability imply such a change, we cannot determine whether couples’ support relationships do indeed change as a result of living with a long-term disability. It is possible that persons who become attached to spouses with severe physical difficulties are blessed with support schemata of patience and flexibility. The men with disability in the current research were not born with their disability; they experienced physical trauma during early adulthood and had to learn to deal with it. We can assume that support schemata gained special importance and thus served a particular role in their lives. As such, these schemata were reshaped in the face of the demands to adjust to new life circumstances.

It is important to note the support schemata of the wives of men with disability. Their schemata are simultaneously connected to two worlds: They share characteristics with those of men and women without disability and with those of men with disability. It seems that their worldview, similar to that of their spouses, shapes the way that they perceive interpersonal support in intimate relationships. This life situation appears to promote the value of preserving the capacity of the support provider, in and of itself. Thus, the meaning of preserving reciprocal support is manifested in responding to the other’s needs while maintaining the relationship’s positive value.

The differences found between couples living with and without disability reflect how the schemata reinforce mutuality of the relationship: the ability to simultaneously envision the needs of both spouses and the vitality of the relationship as a goal. It is possible that the schema of mutual support in couple relationships is reshaped in couples with disability, where the extensive support needs of the person with disability may exhaust the support-providing spouse. In such couples, the support within the couple is perceived as being neither unconditionally essential nor a part of a natural and reciprocal relationship.

Finally, some limitations of the study need to be acknowledged. First, the results were obtained from a relatively small and homogeneous sample of Israeli military veterans, all of whom were men who experienced a spinal cord injury and were using a wheelchair. Without further research, the findings cannot be generalized to other forms of disability, nor can they be generalized to couples in which the female partner experiences disability. Second, given that
the comparison group consisted of couples referred by the couples with disability, it may not have been a completely independent comparison. Additionally, attitudes regarding support from outside the couple may have been influenced by the fact that participants recommended couples whom they knew to be at similar stages of life; thus, they all may have had supportive friends. Third, given the exploratory approach taken in partitioning the SSA maps and in interpreting the relations among regions, the findings should be considered as being suggestive and may need to be validated in future research. Implications

The findings of this study may have some implications for rehabilitation practitioners and students. First, the findings highlight the importance of cognitive schema for understanding the daily lives of couples who are living with severe physical disability. Understanding and recognizing such cognitive representations of support in couples may help practitioners to evaluate the strengths and coping resources of couples who are facing life challenges. Although the current study cannot directly attest to as much, it may well be assumed, on the basis of schemata research (Pierce et al., 1996), that support schemata shape support behaviors in couples.

Second, while recognizing the importance of support schemata in understanding couples with disability, the findings of the current study inform rehabilitation practitioners about the universality, as well as the uniqueness, of support schemata among these couples. Specifically, the findings about support schemata that are common to couples with and without disability may help practitioners acknowledge natural and normative processes and thus “normalize” certain beliefs and practices when working with couples with disability. At the same time, the findings may help practitioners to recognize and appreciate support beliefs that appear to be unique to couples with disability.

Finally, the items of the scale measuring support schemata may serve practitioners as a tool for evaluating the support schemata of the person with disability and his or her spouse, who seek a practitioner’s assistance. Such an evaluation may then be utilized in the counseling process to highlight strengths and challenges in the couple’s life and to conceptualize the ways in which they adjust to each other’s needs. Specifically, a rehabilitation counselor in collaboration with the couple may identify their cognitive representations and beliefs about dyadic support and use it to define and structure their coping resources.

Further research into the role of schema as regulating couples’ support relationships is needed, as well as that into the ways in which mutuality in spousal support is developed. Especially important is continued research on support schemata among those living with chronic illness and severe physical disability.

Authors’ Note

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Appendix A. Couple Support Inventory—Schemata Questionnaire

1. When they need help, most people tend to turn first to their spouses.
2. Most people share their feelings with their spouses.
3. Spouses usually consult each other when making decisions.
4. Most spouses tend to assist each other in everyday matters (errands, household chores, etc.).
5. When instrumental help is needed (for example, because of illness, disability, etc.) most people turn to their spouses.
6. One of the main objectives of couple relations is providing emotional support.
7. People can tell what type of help their spouses need, even without their saying it explicitly.
8. It is possible to obtain emotional help from a variety of sources, not necessarily from the spouse (for example, friends, extended family, etc.).
9. The level of support and assistance that spouses provide each other determines the quality of their married life.
10. When there is no emotional support at home, it is preferable to dissolve the marriage.
11. It is possible to obtain instrumental help from a variety of sources, not necessarily from the spouse (for example, friends, extended family, etc.).
12. People are expected to sense what their partners feel, even if they don’t say it.
13. There are various situations in which it is preferable to turn to someone else for assistance, and not to the spouse.
14. Supporting another person empowers the one who provides the support.
15. Supporting another person can weaken the one who provides the support.
16. When one supports another person, one does so at the expense of things one could have done for oneself.
17. Support between spouses must be mutual and balanced, otherwise it will not last.
18. Most important in life is to support family members.
19. Some people’s personality makes it easy for them to support others, and other people’s personality makes it difficult.
20. Someone who receives support finds it easy to provide support in return.
21. Someone who received support from parents in childhood becomes an adult who likes/is ready to support others.
### Appendix B. Item Correlation Matrix Couples With Disability (n = 65)

|      | Q1   | Q2   | Q3   | Q4   | Q5   | Q6   | Q7   | Q8   | Q9   | Q10  | Q11  | Q12  | Q13  | Q14  | Q15  | Q16  | Q17  | Q18  | Q19  | Q20  | Q21  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Q1   | -    | .624 | .417 | .457 | .581 | .198 | .250 | .062 | .139 | -.317| -.027| .298 | -.124| .137 | .170 | -.154| -.138| -.047| -.182|
| Q2   | .521 | -    | .751 | .586 | .488 | .241 | .185 | .230 | .017 | -.066| -.326| .101 | .086 | .275 | -.179| .257 | .156 | -.164| .123 | .065 | -.105|
| Q3   | .611 | .553 | -    | .621 | .447 | .283 | .085 | .268 | .113 | -.145| -.139| .035 | .139 | .170 | -.104| .178 | .081 | -.193| .189 | .023 | -.008|
| Q4   | .577 | .544 | .525 | -    | .560 | .028 | .133 | .320 | -.022| -.118| -.273| -.056| .245 | -.134| .058 | .250 | -.077| -.178| .015 | -.071| -.174|
| Q5   | .433 | .489 | .381 | .552 | -    | .395 | .197 | .237 | .043 | -.001| -.243| .034 | .193 | .115 | -.080| .276 | .098 | -.153| .026 | .045 | .036 |
| Q6   | .302 | .302 | .508 | .312 | .201 | -    | .436 | -.126| .303 | .238 | -.071| .273 | -.125| .427 | -.148| .106 | .241 | .118 | .110 | .254 | .397 |
| Q7   | .253 | .289 | .297 | .258 | .278 | .460 | -    | -.135| .219 | .226 | -.113| .445 | -.320| .300 | -.300| .033 | .092 | .119 | .214 | .220 | .263 |
| Q8   | -.326| -.171| -.387| -.065| -.175| -.216| -.119| -    | -.259| -.178| -.254| -.551| -.063| -.126| -.125| -.223| -.372| -.216| -.201| -.189|
| Q9   | -.007| -.013| -.116| -.152| -.190| -.156| -.383| -.152| -    | .347 | -.099| -.442| -.350| -.398| -.220| -.165| .420 | .417 | .326 | .330 | .376 |
| Q10  | -.054| -.183| -.075| -.125| -.018| -.154| -.175| -.149| -.277| -.044| .526 | -.227| .336 | -.288| -.309| .419 | .200 | .270 | .405 | .376 |
| Q11  | -.098| -.151| -.036| -.004| .014 | -.156| -.355| -.358| -.528| -.375| -    | -.164| -.368| -.065| -.171| -.286| -.254| -.257| -.676| -.204| -.061|
| Q12  | -.213| -.242| -.324| -.204| -.386| -.378| -.799| -.184| -.201| -.205| -.331| -    | -.436| -.252| -.360| -.424| -.233| -.303| -.277| -.469| -.533|
| Q13  | -.219| -.104| -.247| -.021| .047 | -.172| -.007| -.410| -.085| -.147| -.131| -.010| -    | -.132| -.188| -.149| -.103| -.324| -.089| -.233| -.177|
| Q14  | -.172| -.208| -.510| -.260| -.186| -.513| -.413| -.289| -.050| -.093| -.076| -.436 | -.027| -    | -.391| -.206| -.345 | -.136| -.336| -.203| -.221|
| Q15  | -.003| -.029| -.202| -.066| -.211| -.185| -.221| -.215| -.112| -.002| -.166| -.266| -.209| -.425| -    | -.384| -.046| -.017| -.461| -.206| -.141|
| Q16  | -.236| -.046| -.415| -.099| -.127| -.330| -.238| -.279| -.129| -.102| -.142| -.347| -.210| -.520| -.623| -    | -.075| -.031| -.165| -.138| -.277|
| Q17  | .127 | .398 | .060 | .228 | .210 | .048 | .115 | -.208| .291 | .256 | -.188| .100 | -.237| .024 | -.108| .166 | -    | .533 | .159 | .319 | .304 |
| Q18  | .151 | .326 | .237 | .344 | .184 | .228 | .037 | -.169| .006 | -.233| -.008| -.019| .016 | .256 | -.074| -.026| .168 | -    | .230 | .286 | .329 |
| Q19  | .143 | .011 | .262 | .203 | .036 | .392 | .079 | -.001| -.083| -.181| .090 | .081 | .192 | .545 | -.019| -.197| -.241| .386 | -    | .170 | .165 |
| Q20  | .369 | .147 | .588 | .186 | .131 | .444 | .361 | -.471| -.134| -.058| -.225| .295 | -.204| .585 | -.247| -.413| .047 | .061 | .220 | -    | .767 |
| Q21  | .106 | .060 | .201 | .167 | .271 | .216 | .180 | -.173| .216 | -.045| .011 | .185 | .013 | .047 | -.129| -.036| -.033| .015 | .020 | .171 | -    |

Note: Correlations for men are above the diagonal; for women, below.
| Q1   | Q2   | Q3   | Q4   | Q5   | Q6   | Q7   | Q8   | Q9   | Q10  | Q11  | Q12  | Q13  | Q14  | Q15  | Q16  | Q17  | Q18  | Q19  | Q20  | Q21  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|     1 | .667 | .653 | .224 | .430 | .179 | .109 | -.237 | .328 | .119 | -.200 | .150 | -.145 | .072 | -.086 | -.020 | .061 | .093 | .050 | .093 |
|     2 | .726 | —    | .685 | .240 | .359 | .328 | .055 | -.279 | .405 | .048 | -.261 | .003 | -.078 | -.033 | -.029 | .066 | .013 | -.075 | .000 |
|     3 | .575 | .706 | —    | .554 | .531 | .370 | .104 | -.198 | .457 | .020 | -.194 | .177 | -.016 | .040 | .026 | .106 | .150 | .079 | .060 | .074 |
|     4 | .475 | .505 | .412 | —    | .553 | .138 | .316 | .101 | .210 | .070 | -.228 | .109 | -.053 | -.016 | -.071 | .109 | -.046 | -.005 | .104 | -.104 |
|     5 | .728 | .721 | .720 | .587 | —    | .286 | .232 | .106 | .301 | .119 | -.111 | .014 | .082 | .255 | -.107 | -.060 | -.007 | -.056 | .382 | -.141 |
|     6 | .250 | .403 | .210 | .084 | .331 | —    | .089 | -.186 | .635 | .101 | .121 | .172 | -.027 | .136 | .036 | .073 | .214 | -.005 | .188 |
|     7 | .334 | .441 | .420 | .332 | .348 | .137 | —    | -.015 | -.083 | -.113 | -.117 | .650 | -.101 | .180 | -.104 | .070 | -.029 | -.112 | -.134 |
|     8 | -.150 | .030 | .021 | .232 | -.017 | -.42 | .040 | —    | -.077 | -.013 | .175 | -.168 | .508 | .166 | -.434 | -.148 | -.214 | -.185 | -.170 |
|     9 | .044 | .087 | .225 | -.042 | .098 | .234 | .103 | .037 | —    | .263 | -.026 | .014 | -.022 | .171 | -.060 | -.046 | .132 | -.036 | .350 |
|    10 | .129 | .313 | .433 | .172 | .316 | .394 | .332 | -.014 | .262 | —    | .100 | .048 | .043 | .165 | -.056 | .196 | .157 | .015 | .506 |
|    11 | .089 | .110 | .236 | .147 | .231 | .137 | -.131 | .470 | .100 | .156 | —    | -.085 | -.016 | .147 | -.059 | -.091 | .134 | -.088 | .084 |
|    12 | .130 | .174 | .304 | .176 | .141 | -.035 | .731 | -.177 | .056 | .262 | -.092 | —    | -.177 | .185 | -.085 | -.080 | .175 | .145 | -.070 |
|    13 | -.358 | -.438 | -.284 | -.018 | -.367 | -.181 | -.256 | .325 | -.287 | .017 | .248 | -.017 | —    | .119 | -.035 | .159 | -.082 | -.014 | .111 |
|    14 | .290 | .192 | .133 | .101 | .240 | .375 | .188 | -.012 | .116 | .297 | .191 | .098 | .153 | —    | -.385 | -.115 | .084 | -.052 | .271 |
|    15 | -.191 | -.149 | -.004 | -.085 | -.203 | -.311 | -.015 | -.005 | -.180 | .006 | -.111 | .078 | -.264 | -.143 | —    | .381 | -.081 | -.027 | -.103 |
|    16 | -.042 | .059 | .081 | .035 | -.094 | -.111 | .150 | .154 | -.089 | .299 | .148 | .209 | .200 | .232 | .372 | —    | -.426 | .225 | -.305 |
|    17 | .021 | .087 | .261 | -.205 | -.004 | .170 | .171 | -.140 | .144 | .403 | -.179 | .247 | -.025 | .319 | .194 | .291 | —    | .559 | -.183 |
|    18 | .137 | .067 | .095 | -.178 | -.106 | -.120 | .290 | -.128 | .176 | .079 | -.122 | .332 | -.103 | .320 | .302 | .329 | .413 | —    | .017 |
|    19 | -.031 | -.080 | -.020 | .014 | -.107 | -.182 | .127 | .322 | .119 | .133 | .158 | .209 | .387 | .034 | -.004 | .187 | .172 | .205 | —    |
|    20 | .183 | .179 | .068 | -.042 | .095 | .217 | -.006 | -.225 | .093 | .219 | .142 | -.058 | -.175 | .436 | -.063 | .029 | .240 | .188 | -.387 |
|    21 | .000 | .052 | -.021 | -.106 | -.077 | .125 | .108 | -.042 | .033 | .258 | .110 | .233 | .137 | .535 | -.022 | .295 | .322 | .352 | .057 |

Note: Correlations for men are above the diagonal; for women, below.
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