



Psychological need-satisfaction and subjective well-being within social groups

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Five candidate measures of psychological need-satisfaction were evaluated as predictors of high positive and low negative mood within the group, intrinsic motivation for group activities, and high commitment to the group. Consistent with self-determination theory (Deci & Ryan, 1991), personal autonomy and interpersonal relatedness both predicted positive outcomes. Consistent with optimal distinctiveness theory (Brewer, 1991), feeling included within the group, feeling personally distinctive within the group, and feeling that the group is distinctive compared to other groups, also predicted positive outcomes. Simultaneous regression analyses indicated that the five needs were differentially related to the different well-being indicators, and also suggested that group inclusion may be the most important need to satisfy within group contexts. Supplementary analyses showed that members of formal groups felt less personal autonomy, but more group distinctiveness, compared to informal group members.

Beginning with the pioneering work of Henry Murray (1938), psychological need constructs have a long history within social and personality psychology. In the 1970s and 1980s, the needs approach lost popularity when research failed to confirm important predictions of the Maslovian need-hierarchy model (Wahbah & Bridwell, 1976). More recently, theorists have again summoned need constructs, because these motivational variables offer promise for organizing and understanding a variety of surface or 'phenotypic' effects at a deeper or more 'genotypic' level (Baumeister & Leary, 1995; Deci, 1992; Sheldon, Ryan, & Reis, 1996). Need constructs are especially useful when defined in light of theories of optimal adaptation and performance, and when employed to predict important outcomes such as adjustment, well-being and personality development (Baard, Deci, & Ryan, 1998; Ryan, 1995; Sheldon & Elliot, 1999). Indeed, Baumeister and Leary (1995) argue that such outcomes are among the best criterion variables available for determining which types of experiences are truly necessary for humans (see also Ryan, 1995).

Consistent with these contemporary approaches, in the present work we examined several theoretically important psychological need constructs. However, we did so in the context of *group*-oriented activity. Although group process researchers have long assumed that psychological needs are important motivators of group behaviour (e.g. Tajfel, 1981; Tajfel & Turner, 1986), personality and motivation theorists have been slow to apply their models of psychological needs to group-functioning. Focusing

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explicitly on individual need-satisfaction in the context of social group memberships may shed light on a number of important adaptive, moral and motivational questions concerning the complex interplay between self-interested and group-interested behaviour (Caporael & Brewer, 1995), personal identity and social identity (Hogg & Abrams, 1993) and the well-being that may be gained or perhaps sacrificed by incorporating the self into collectives (Bettencourt & Dorr, 1997; Crocker, Luhtanen, Blaine, & Broadnax, 1994; Suh, Oishi, Diener, & Triandis, 1998). For guidance in selecting and interpreting candidate need constructs, we employed two contemporary theories of psychological needs: optimal distinctiveness theory (Brewer, 1991) and self-determination theory (Deci & Ryan, 1991).

Optimal distinctiveness theory

Optimal distinctiveness theory (ODT; Brewer, 1991, 1993a) provides one model of psychological needs relevant for understanding well-being within group contexts. This theory builds on social identity theory (Tajfel & Turner, 1986) and self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherall, 1987), which postulate that humans derive extended self-concepts from their group memberships. When a social identity is salient, people typically identify themselves as interchangeable representatives of the social group category, tending to become somewhat depersonalized in the process (Turner *et al.*, 1987). For example, a person might respond as a prototypical member of a particular service organization rather than as a singular individual.

Of particular relevance for the current work, Brewer (1991) proposed that humans have two primary social needs or drives, for *assimilation* and for *differentiation*. Assimilation refers to the desire to feel 'inclusion within larger collectives' (Brewer, 1991, p. 478), whereas differentiation refers to a desire to 'distinguish [oneself] from any other persons in the social context' (1991, p. 477). That is, people would like to feel both similar to and distinct from others. However, Brewer also proposes that these two needs are opponent processes (Brewer, 1991; Solomon, 1980)—that is, each experience tends to occur at the expense of the other. On the surface, this suggests that people find it difficult to meet both needs within a particular group, because the more assimilated or included they feel within that group, the less distinct and separate they are likely to feel (and vice versa).

However, ODT proposes a solution to this dilemma, specifically positing that people can satisfy their assimilation needs via within-group experience (i.e. by identifying themselves with the group as a whole) and their differentiation needs via between-group experience (i.e. by distinguishing the group from other groups). For example, a member of a particular group might meet assimilation needs via identification with that group, and at the same time meet differentiation needs by thinking of the group 'as having clear boundaries that differentiate it from other groups' (Brewer, 1991, p. 478). By proposing that assimilation and differentiation needs are met at different levels of group experience (within and between, respectively), Brewer reveals a route by which people can feel both inclusion and distinctiveness via their group memberships. Initial tests of the theory (Brewer, 1993a, 1993b; Brewer, Manzi, & Shaw, 1993; Henderson-King, Henderson-King, Zhermer, Posokhova, & Chiker, 1997) reveal its potential power for understanding the complexities of intergroup attitudes and conflict.

In the current research, we measured all three of the psychological needs implied by ODT in the context of a salient social group membership. We asked people how

included they felt within the designated group, how personally distinctive they felt within the group, and how distinctive the group felt compared to other groups. This approach enabled us to examine the association of these constructs with each other. For example, does personal distinctiveness within the group correlate negatively with felt inclusion within the group, as ODT seems to suggest? We were also enabled to assess each construct as a predictor of well-being. For example, do feelings of group inclusion, personal distinctiveness and group distinctiveness all predict well-being? Again, contemporary theories of psychological needs led us to expect so (Baumeister & Leary, 1995; Ryan, 1995).

It is important to note that the current research applies ODT somewhat differently than past researchers. First, we used a self-report correlational methodology rather than an experimental methodology. Second, we attempted to directly measure experiential need-satisfaction, rather than assuming that satisfaction results from particular group and contextual variables. Third, we examined the relations among need-satisfaction constructs and also their relations with well-being. In taking this approach we assumed that perceptions of inclusion and distinctiveness are to some extent *person* variables, which differ within-groups and also covary with well-being. Given these departures, the current work should not be considered as a test of ODT, but rather as an exploration of ODT's potential applicability for understanding need-satisfaction and psychological well-being in group contexts.

Self-determination theory

Self-determination theory (SDT; Deci & Ryan, 1985, 1991) is another contemporary theory of psychological needs that is relevant for understanding personal thriving within group contexts. SDT attempts to provide an account of the motivational processes by which individuals seek autonomy and self-expression within the context of social relationships. In particular, the theory focuses on the factors that enable individuals to meet their psychological needs when they are in a lower-power position (i.e. child with parent, student with teacher, employee with boss). Much research reveals that if authorities use controlling language or fail to take the subordinate's perspective into account, then those people may fail to find intrinsic motivation for, fail to internalize the value of, or fail to derive well-being benefits from, their activities within the interpersonal context (see Deci, Koestner, & Ryan, 1999).

Similar to ODT, SDT posits that humans have both self-oriented and socially-oriented psychological needs, which are labelled 'autonomy' and 'relatedness'.¹ Autonomy involves the desire to 'self-organize experience and behavior, and to have activity be concordant with one's integrated sense of self' (Deci & Ryan, 2000). Relatedness involves the 'desire to feel connected to others' (Deci & Ryan, 2000), that is, to have a sense of communion (Bakan, 1966) or closeness with others (Baumeister & Leary, 1995). Unlike ODT, SDT does not assume an opponent-process relation between self-based and socially-based needs. Although autonomy and relatedness motives can manifest in ways that engender conflict, especially in earlier developmental stages (Ryan, 1995), mature autonomy and relatedness are viewed as highly compatible and even complementary motives (Guisinger & Blatt, 1994; Hodgins, Koestner, & Duncan, 1996; Koestner & Losier, 1996; Ryan & Lynch, 1989). By means of empathic communication and responsible decision-making, adults typically find *both* self-expression and

¹The third basic need postulated by SDT (experiences of competence) is not addressed in this article.

emotional closeness within their interpersonal relationships. Conversely, when one experience is deficient, the other experience is also likely to be missing.

In the current research we assessed both of these needs specified by SDT, in the context of the designated social group. That is, we asked participants how related or connected they felt to other people within this group, and how autonomous they felt within the group. This approach enabled us to examine the association between the posited needs. For example, do autonomy and relatedness correlate positively, as would be suggested by SDT's assumed complementary relationship between the two needs? We were also able to examine the association of these qualities of experience with well-being. Drawing on SDT's assumption that both are important needs, we expected them to be associated with positive outcomes.

To our knowledge, SDT has not been applied in group process research; rather, prior studies have focused primarily on issues of choice and coercion within interpersonal relationships. Logically, however, the problem of finding autonomy within a group (in which a person may sometimes encounter restrictive norms or pressures) should be similar to the problem of finding autonomy within an interpersonal relationship (in which a person may also encounter restrictive norms or pressures). Again, according to SDT, personal and interpersonal needs need not be in conflict, and may often be mutually supportive. Extending this postulate to the group context, we expected that individuals would find the most sense of autonomy when they felt most connected to others within the group.

Comparing ODT and SDT

In summary, although the *socially based* needs posited by ODT and SDT are somewhat similar (i.e. interpersonal relatedness and group inclusion), the proposed *self-based* needs appear to be somewhat different. Again, SDT suggests that the need for individuality takes the form of a drive for autonomy, by which people attempt to take possession of their selves and behaviour. In contrast, ODT suggests that the need for individuality takes the form of a drive for differentiation or uniqueness relative to others. These two somewhat different notions of optimal selfhood parallel other dichotomies studied before, such as autonomy vs. independence (Ryan & Lynch, 1989), identity vs. isolation (Erikson, 1963) and reflective vs. reactive autonomy (Koestner & Losier, 1996).

An interesting question for the current research was: from which type of individuality—sense of felt autonomy within groups, or sense of personal distinctiveness within groups—do people gain the most well-being benefits? Past SDT research showing that autonomy (or choiceful self-ownership) is more beneficial for well-being than is independence (or reactive self-assertion; see Hodgins *et al.*, 1996; Koestner & Lowier, 1996; Ryan & Lynch, 1989) suggests an answer to this question, namely that feelings of autonomy might more strongly predict well-being than feelings of uniqueness or personal distinctiveness. As a final difference between the two theories, ODT says that people may meet their need for distinctiveness in part via the feeling that their group is distinct from other groups. In contrast, SDT is silent on this issue of intergroup comparisons.

Formal vs. informal groups

As an additional variable, we examined two different types of groups (Deaux, Reid, Mizrahi, & Ethier, 1995). Specifically, we compared members of formal groups

(i.e. groups with charters, officers, a defined mission and regular meetings) to members of informal groups (i.e. less well-defined groups based on friendship, study arrangements or casual hobbies/interests). Although both types of group memberships can be rewarding, we believed that the *pattern* of rewards (i.e. kinds of need-satisfaction) might differ between the two groups. Formal groups are likely to provide more structure, have stronger norms and have higher expectations of their members, whereas informal groups are likely to provide less structure and have weaker norms and lower expectations. Thus, we hypothesized that formal group members might feel less personal autonomy within their groups, but might also feel a greater sense of distinctiveness regarding their group compared to other groups.

Positive outcome variables

We assessed group-specific well-being by measuring participants' typical positive and negative mood within the group context. These two constructs have been shown to be essential and conceptually distinct components of well-being (Diener, 1984, 1994). High positive mood and low negative mood were construed as positive outcomes. We also asked participants to rate how much they enjoyed their group participation and how much interest they felt in the group's activities. These two items are commonly used to assess intrinsic motivation, a well-being related outcome that is typically heightened to the extent that individuals' psychological needs are satisfied (Deci & Ryan, 1991). Finally, we asked participants how committed they felt to the group. This variable has obvious relevance for those hoping to enhance group members' dedication to a group and its functioning.

Summary and specific hypotheses

In summary, in this research we measured five group-related need-satisfaction constructs, derived from both ODT and SDT, intending to examine their associations with each other and with positive affect, negative affect, intrinsic motivation and commitment. Consistent with ODT, we hypothesized that group inclusion would be correlated negatively with personal distinctiveness. Consistent with SDT, we hypothesized that autonomy would be correlated positively with relatedness. Consistent with both theories, we expected that all of the need constructs would be correlated with the positive outcomes. We also planned to test the five need-satisfaction constructs as simultaneous predictors of each dependent measure, in order to see which needs account for the most unique variance in positive outcomes. Based on past findings concerning the relative benefits of autonomy compared to independence, we posited that personal autonomy might in some ways be more salubrious than personal distinctiveness. Finally, we conducted analyses concerning differences in need-satisfaction between formal and informal groups, believing that these two types of group context might offer somewhat different kinds of experiences and satisfactions.

Method

Participants and procedure

Participants were 144 introductory psychology students at the University of Missouri who received experimental credit for their participation. Participants completed the survey within a single group session. They first read: 'We would like you to think of a particular formal campus group of which you are a member. Typically, campus groups are registered with the University

administration, and have officers and regular meetings. If you are not a member of a formal campus group, please think of an informal group (perhaps based on friendships, intramural teams, or living or study arrangements) that you belong to.' They were next asked to indicate which type of group they had in mind (formal or informal). Finally, they proceeded to answer questions about their experiences within their chosen group.

Measures

Need-satisfaction

By carefully considering the phenomenology of need-satisfaction as discussed by Brewer, Deci and Ryan, and via pilot research, we arrived at three items to assess each of the five candidate needs. These face-valid items are given in the Appendix. Reliability analysis demonstrated satisfactory alpha coefficients for the five scales (for personal autonomy, $\alpha=.71$; for interpersonal relatedness, $\alpha=.83$; for group inclusion, $\alpha=.80$; for personal distinctiveness, $\alpha=.75$; and for group distinctiveness, $\alpha=.73$). Scores for each need were computed by averaging the three responses.

Outcome variables

We assessed group-specific mood by asking participants to 'rate how much you feel each mood, when you are participating in this group'. A 5-point scale (=not at all to 5=very much) was employed. The mood item set was the same as that used in considerable past research (Emmons, 1991; Reis, Sheldon, Gable, Roscoe, & Ryan 2000; Sheldon, Ryan, & Reis, 1996), and represent states of both high and low activation. The positive affect items with 'joyful', 'happy', 'enjoyment/fun' and 'pleased'. The negative affect items were 'depressed', 'worried/anxious', 'frustrated', 'unhappy' and 'angry/hostile'. Separate positive affect and negative affect scores were computed by averaging the appropriate ratings ($\alpha s=.87$ and $.79$, respectively). Intrinsic motivation was computed by averaging participants' ratings to two items: 'How much interest do you feel in the things this group does?' and 'How much do you enjoy participating in this group?' ($\alpha=.86$). Finally, commitment was measured by a single item: 'How committed do you feel to this group?'

Results

Table 1 contains descriptive statistics for all variables, and also presents mean differences by group type. Of the participants, 84 indicated they were rating a formal group, and 50 indicated they were rating an informal group. Ten participants did not answer the question or they gave a non-permissible response. These participants were excluded, leaving a final N of 134.

As can be seen, the mean values for the outcome variables did not differ as a function of whether an informal or a formal group was being rated. However, there were significant mean differences for two of the need-satisfaction variables: members of formal groups reported experiencing a relatively weaker sense of autonomy in their groups, but a relatively stronger sense of group differentiation. In addition, members of formal groups reported feeling a marginally weaker sense of personal distinctiveness within their groups. This appears consistent with ODT's premise that group members may derive feelings of distinctiveness via an intergroup rather than an intragroup route, and suggests that this is particularly likely in the case of formally constituted groups.

Table 2 presents the correlations among the five candidate needs. As can be seen, the associations were all positive, and were especially strong among autonomy, relatedness and group inclusion. Thus, the SDT-based hypothesis that personal autonomy would be associated with interpersonal relatedness was supported. However, the ODT-based hypothesis that group inclusion would be associated negatively with personal distinctiveness was not supported.

Table 3 presents the correlations between the five candidate needs and the four outcome measures. As expected, all of the constructs were associated with desirable

Table 1. Descriptive statistics and group-type differences for all variables

	<i>M</i>	<i>SD</i>	Informal (<i>N</i> =50)	Formal (<i>N</i> =84)	<i>t</i> (133)	<i>p</i>
ODT-based needs						
Group inclusion	3.84	.89	3.89	3.82	-.46	.65
Personal distinctiveness	3.35	.82	3.51	3.26	-1.84	.07
Group distinctiveness	3.33	.95	3.11	3.47	2.14	.04
SDT-based needs						
Personal autonomy	3.67	.84	3.85	3.57	-1.96	.05
Interpersonal relatedness	3.91	.91	3.95	3.88	-.41	.71
Outcome measures						
Positive affect	3.98	.85	3.93	4.00	.48	.64
Negative affect	1.95	.73	2.01	1.91	-.79	.43
Intrinsic motivation	3.94	1.09	3.83	4.01	.97	.35
Commitment	3.64	1.06	3.50	3.72	1.19	.25

Table 2. Correlations between need-satisfaction constructs

	Group inclusion	Personal distinctiveness	Group distinctiveness	Personal autonomy
Personal distinctiveness	.43			
Group distinctiveness	.37	.36		
Personal autonomy	.73	.49	.30	
Interpersonal relatedness	.72	.40	.29	.62

Note: All $ps < .01$.

Table 3. Correlations between need-satisfaction constructs and outcome variables

	Positive affect	Negative affect	Intrinsic motivation	Commitment
Group inclusion	.64**	-.29**	.61**	.33**
Personal distinctiveness	.26**	.01	.20*	.29*
Group distinctiveness	.23**	-.11	.30**	.32**
Personal autonomy	.56**	-.32**	.42**	.35**
Interpersonal relatedness	.62**	-.14	.38**	.50**

* $p < .05$; ** $p < .01$.

outcomes, with three exceptions: interpersonal relatedness, group distinctiveness and personal distinctiveness were not significantly correlated with low negative affect within the group. This suggests that the need-satisfaction constructs may be somewhat more relevant to the presence of positive outcomes than to the absence of negative outcomes.

Finally, we conducted four simultaneous regressions, one for each of the four outcomes, in which each of the five needs was entered together. Which needs, if any,

Table 4. Standardized simultaneous coefficients relating need-satisfaction constructs to outcome variables

	Outcome variables			
	Positive affect	Negative affect	Intrinsic motivation	Commitment
Need constructs				
Group inclusion	.33**	-.25†	.53**	-.04
Personal distinctiveness	-.09	.23*	-.12	.07
Group distinctiveness	.00	-.05	.12	.20*
Personal autonomy	.17†	-.34**	-.04	.13
Interpersonal relatedness	.31**	.18	.16	.23*
Overall R ²	.48**	.17**	.40**	.21**

* $p \leq .05$; ** $p \leq .01$; † $p \leq .10$.

Note: These data come from four regressions in which all five needs were entered simultaneously as predictors of each outcome variable.

account for unique variance in positive outcomes? This is a rather stringent test given the high intercorrelations between some of the needs.

Table 4 contains the resulting coefficients. As can be seen, although they were significant in every case, overall R^2 values varied substantially across analyses. This indicates that psychological need-satisfaction may be more important for some outcomes than for others. The outcomes are considered in turn. For the positive affect variable, both group inclusion and relatedness were significant, and autonomy was marginally significant. Group inclusion was the only significant predictor of intrinsic motivation. Only group distinctiveness and relatedness were significant for the commitment variable. Finally, for the negative affect variable, both personal autonomy and personal distinctiveness were significant, although the coefficient for personal distinctiveness was positive rather than negative. In addition, group inclusion was a marginally significant negative predictor of negative affect.² Taken together, these results suggest different outcomes are impacted by different needs. The results also suggest that group inclusion may be the most important need overall, followed by interpersonal relatedness and personal autonomy.

Discussion

In this research we evaluated five candidate need constructs as predictors of group-specific mood, commitment and motivation, attempting to determine which types of experiences might actually be 'needs' for humans. As noted previously, we assumed that well-being variables provide reasonable criteria with which to identify psychological needs (Ryan, 1995). This assumption is based on an idea implicit in the concept of a

²We also examined interactions between group-type (formal or informal) and each of the need-satisfaction variables in predicting each of the outcomes. We did this by centring the need-satisfaction and group-type variables, computing five product terms by multiplying each need-satisfaction construct by the group-type variable, and then entering this set of five variables into each regression equation along with the five main effects (Cohen & Cohen, 1983). Only one of the 25 potential interactions was significant: autonomy had a stronger effect on commitment within informal groups ($\beta = .31$, $p < .05$). However, we believe little interpretive weight should be given to this finding, as one significant interaction effect would have been expected by chance alone.

psychological need, namely that meeting the need should engender positive outcomes (Baumeister & Leary, 1995).³ More generally, in the organismic approach to understanding personal thriving (Goldstein, 1939), psychologists try to identify and document the psychological 'nutrients' which best afford well-being and personality development, in the same way that botanists might try to identify the physical nutrients that best contribute to a plant's health and growth (Ryan, 1995). The present research, along with other recent work of this nature (Reis *et al.*, 2000; Sheldon & Elliot, 1999; Sheldon *et al.*, 1996), furthers this goal.

To identify candidate needs, we drew in part from optimal distinctiveness theory. Specifically, we assessed differences in students' felt inclusion within their designated social group, their felt distinctiveness compared to others inside the group, and the felt distinctiveness of their group compared to other groups. Notably, most published research in the ODT tradition has focused on intergroup rather than intragroup processes, and has been experimental rather than correlational. Also, in the past researchers employing ODT have not attempted to measure need-satisfaction directly. However, we believed that a correlational study that focused explicitly on postulated need-satisfaction constructs, examining their relationship both with each other and with other positive outcomes, might be very informative.

We also derived candidate need constructs from self-determination theory (Deci & Ryan, 1991, 2000). Specifically, we employed SDT's distinction between the need for interpersonal relatedness and the need for personal autonomy. Although most past research in the SDT tradition has focused on interpersonal rather than group processes, we believed that SDT's postulates concerning psychological needs could be profitably extended to the group context. This is because individuals may sometimes face restrictive norms and pressures within their groups, just as they do in interpersonal relationships. In particular, the SDT perspective suggested that self-based and socially based needs are not necessarily in conflict, and may even complement each other.

The findings of the present research can be grouped into three categories: differences between formal and informal groups, intercorrelations of need-constructs, and associations of need-constructs with well-being. We discuss each in turn below.

The group type analyses revealed that levels of the outcome measures were no different within formal compared to informal groups. That is, members of formal groups (e.g. groups with charters, officers and regular meetings) were no more happy or committed than members of informal living, friendship or study groups. Yet some theoretically meaningful differences emerged regarding the need-satisfaction variables. Specifically, members of formal groups felt less personal autonomy and somewhat less personal distinctiveness in their groups, but also evaluated their groups as more unique compared to other groups. Thus it appears that formal group membership may come with some trade-offs: one gains a more distinctive group identity, but may sacrifice some personal freedom. Conversely, it seems that members of informal groups are able to feel greater autonomy and individual uniqueness within such groups, but they may not derive as much pride or sense of identity from comparing their group to other groups (Brewer & Pickett, 1999).

³Notably, well-being outcomes are just one of many possible criteria for identifying needs; other criteria include whether the postulated needs direct cognitive processing and elicit goal-oriented behaviour designed to satisfy them, whether they apply to all people, whether they are derivative of any other motives, and whether they have implications that go beyond immediate psychological functioning (Baumeister & Leary, 1995).

We also tested two specific hypotheses concerning intercorrelations between the five needs. The first hypothesis was that personal distinctiveness would be correlated negatively with group-inclusion, as implied by ODT's opponent process conception of differentiation and assimilation. The second was that autonomy would be correlated positively with relatedness, as implied by SDT's assumption that these needs are complementary, not antithetical. The second hypothesis received support, whereas the first did not. One possible reason personal distinctiveness did not correlate negatively with group inclusion is that our measure of personal distinctiveness did not capture the sense of isolation or even alienation that this implied by some of Brewer's (1991) writings. In addition, our measure of inclusion may not have captured the opposite negative extreme, of feeling 'swallowed up' by the group (Brewer, 1991). Instead, our measures were more moderately worded, and in these terms the current data suggest that it is not difficult to feel both included within, and distinctive within, one's groups.

As expected, all five need-satisfaction constructs were correlated with the three positive outcomes (i.e. intrinsic motivation, commitment and positive affect). However, only two of the satisfaction constructs were correlated with low negative affect. This suggests that need-satisfaction constructs may be more relevant for understanding the presence of positive well-being than for understanding the absence of negative well-being (Ryan, 1995). In other words, although one may be made happy by various types of satisfying experience (as our data suggest), one may be made unhappy, we suspect, by difficulties and problems that were unmeasured in this study.

Our final analyses, in which each of the outcomes was predicted from the entire set of five needs, revealed an interesting pattern of effects. First, participants felt most committed to groups perceived as different from other groups, and in which they also have close friends. These two factors may have special impact on group members' feelings of commitment. For example, Brewer (1991; p. 478) writes: 'to secure loyalty, groups must not only satisfy member's needs for affiliation and belonging within the group, they must also maintain clear boundaries that differentiate them from other groups'. Second, the two 'socially based' needs—group inclusion (from ODT) and interpersonal relatedness (from SDT)—were most important for positive affect, despite their high intercorrelation. The fact that felt inclusion within the group and felt connections with others *both* had impact suggests that social identity and interpersonal relations perspectives offer ultimately complementary accounts of social satisfaction. Thirdly, the two 'self-based' needs—personal distinctiveness (from ODT) and personal autonomy (from SDT)—were most important for predicting negative affect. However, the signs of the two effects were different (negative for autonomy, positive for distinctiveness). The fact that autonomy predicted *low* negative affect and personal distinctiveness predicted *high* negative affect is consistent with our supposition that autonomy is at least in some ways more important for well-being than distinctiveness. That is, according with past SDT research contrasting autonomy with independence (Koestner & Losier, 1996; Ryan & Lynch, 1989), people may have stronger need for a sense of choice and self-ownership than for a sense of distinctiveness or uniqueness. Indeed, it appears that feelings of distinctiveness and uniqueness may at times be quite problematic for individuals.

Taken together, the current study results have implications for an enduring issue in psychology, namely the question of how people reconcile the need to be a sovereign individual with the need to be connected with others and with social groups (Guisinger & Blatt, 1994). After all, groups make demands, exert pressures and apply

norms, all of which may compromise members' autonomy. Isn't conflict inevitable? Again, however, Deci and Ryan (1991) argue that autonomy and independence are very different things. Thus people can feel quite self-determined and autonomous even as they behave exactly according to another person's wishes, *if* they have internalized the doing of that action. Extending this reasoning to a groups context, people should be able to feel a strong sense of autonomy or self-ownership within a group even when they are engaged in assigned behaviour that is boring or even aversive, *if* they have identified with that group's values or norms (Deaux, 1996).

Although our theorizing presumes a causal relationship between satisfying experiences occurring within a group and resultant mood, commitment and motivation outcomes, we are well aware that these correlational data are not sufficient to demonstrate causality. Unfortunately, experimental studies of need-satisfaction in real group contexts would be difficult and perhaps unethical to conduct. One potentially promising way to assess causality is to use prospective designs, which measure baseline levels of well-being at the time the group is joined and then track subsequent changes in well-being as a function of need-satisfaction variables (see e.g. Bettencourt, Charlton, Eubanks, & Kernahan, 1999). Another study limitation involved the fact that all measures were self-reported. Future research should examine other measures of mood, commitment and motivation. Yet another limitation of the study concerns its use of college undergraduates and campus groups. Future research should study need-satisfaction and well-being in other samples and group contexts, such as sports teams or corporate work groups. Finally, future research should examine the generalizability of results to other cultures, in which normative group forces may be stronger or more salient than in the US.

Despite these limitations, the current study sheds new light on the meaning and nature of psychological needs. In addition, the study takes steps to bridge two important contemporary theories of optimal psychosocial functioning, namely optimal distinctiveness theory (Brewer 1991) and self-determination theory (Deci & Ryan, 1991). In so doing, the work also begins to bridge the interpersonal relations and the group identification literature.

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Appendix

Items used to assess the five need-satisfaction constructs

Group inclusion

1. How included do you feel in this group?
2. To what extent do you feel well-integrated into this group?
3. To what extent do you feel a sense of belongingness within the group?

Personal distinctiveness

1. How much do you feel like you stand out within this group?
2. How much do you feel unique as you participate in this group?
3. How distinct and separate do you feel within this group?

Group distinctiveness

1. How different is your group from other groups?
2. How much does this group seem to stand out, compared to other groups?
3. How much does this group seem unique, compared to other groups?

Personal autonomy

1. How free and choiceful do you feel as you participate in this group?
2. How much do you feel wholehearted (as opposed to feeling controlled or pressured) as you do things for this group?
3. To what extent does this group membership allow you to express your authentic self?

Relatedness

1. How close and connected to you feel with other members of the group?
2. How much of a sense of relatedness do you feel with the other members of the group?
3. To what extent do you feel a sense of personal friendship with the other group members?