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Happiness and despair on the catwalk: Need satisfaction, well-being, and personality adjustment among fashion models

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Abstract

According to self-determination theory, well-being and healthy personality development depend on the fulfillment of three basic psychological needs: autonomy, relatedness, and competence. However, various contextual features can interfere with need satisfaction and undermine well-being. We hypothesized that fashion models, who are often valued for superficial reasons (i.e., their looks) and who may not have regular opportunities to cultivate deep relationships or exercise personal control on the job, might experience lower psychological need satisfaction, less well-being, and less optimal personality adjustment. Two studies were conducted in which professional fashion models ($N = 56$ in Study 1; $N = 35$ in Study 2) were compared to approximately equally large groups of non-models. Fashion models reported slightly lower need satisfaction and well-being but greater personality maladjustment (personality disorder features). Mediation analyses in Study 1 suggested that the lower well-being among models was explained via unfulfilled basic needs. These findings further substantiate the importance of basic need satisfaction for well-being and optimal adjustment.

Keywords: *Need satisfaction, happiness, personality adjustment, fashion models*

Introduction

What are the pathways leading to happiness and personal fulfillment? Positive psychologists have argued, to list but a few examples, that happiness and well-being result when people make sufficient progress in the pursuit of their goals (Carver & Scheier, 1990; Lawrence, Carver, & Scheier, 2002), when exercising their signature strengths (Seligman, 2002; Seligman, Steen, Park, & Peterson 2005), or when engaging in activities that fulfill their basic psychological needs (Ryan & Deci, 2002). These arguably lofty ideas, however, contrast with the much simpler paths to happiness advocated by much of the Western mass media. A great way to become happy, for example, might be simply to look fantastic, like a fashion model. With model looks and lifestyle, happiness and fulfillment would surely follow—or would they?

The popular media paint a mixed picture of fashion models. On one hand, the world of the professional model is one of glamour, excitement, and luxury. Magazines marketed to teenagers depict modeling as a dream career, as revealed in a content analysis of *Seventeen*: ''Three basic messages are implied [in the magazine]. The first is that modeling is a highly prestigious career . . . Second, the reader ('you') is told that modeling is well within the realm of her occupational possibilities . . . Finally, if the reader cannot become a model, then looking like one is the next best thing'' (Massoni, 2004, p. 61). On the other hand, the tabloids cultivate a morbid fascination with the dark side of modeling. Models' relationship failures, drug addictions, and personal difficulties are feasted upon and exploited by the paparazzi whose work is fuelled by a sensation-hungry public. Stories emerge of ''supermodels'' with serious psychological maladjustment, ranging from cocaine and alcohol addictions to eating disorders and personality disturbances. In one such recent tabloid article (Walker, 2005), it is shockingly claimed that a ''top catwalk model has lifted the lid on the sordid cocaine-infested world of the fashion industry.'' In that article, a ''stunning catwalk model'' concludes that ''people think modeling is glamorous but it's not—it can destroy your life.''

Is it possible that a serious but neglected psychological issue lurks beyond such glaring sensationalism? Could it be that the modeling career, despite its glamour, is associated with elevated rates of

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psychological maladjustment? Or is modeling, in fact, truly a golden road to fame, fulfillment, and happiness, as some glossy magazines would have you believe? The aim of this project was to explore this issue empirically, by conducting two studies in which professional models' psychological adjustment was compared to that of non-models. We aimed to study these issues with an open mind, allowing for the possibility that models might, in fact, exhibit the same or even better psychological adjustment than non-models. The literature also offers some support for this alternative hypothesis, that models might be more optimally adjusted than others.

Indeed, studies have found that, even though most people do not believe that beauty is important in determining one's character or well-being, attractive people are, in fact, generally treated more favorably and better psychologically adjusted than unattractive people (Langlois, Kalakanis, Rubenstein, Larson, Hallam, & Smoot, 2000). Given that fashion models succeed in their careers specifically because of their looks, one might expect that they would show greater well-being. In support of this idea, a recent meta-analysis found that attractive adults are generally judged to be more occupationally and socially competent than unattractive ones (Langlois et al., 2000). This attractiveness effect has been confirmed many times and in various contexts. For example, another meta-analysis of 27 articles and 62 effect sizes confirmed that attractive men and women are more likely to be hired, promoted, and receive better pay and performance evaluations, regardless of which particular job they perform (Hosoda, Stone-Romero, & Coats, 2003). Attractive people are even preferred by newborn infants, who prefer to look at beautiful faces compared to unattractive ones (Slater et al., 1998). Not surprisingly, recent reviewers concluded that ''physical attractiveness is always an asset for individuals'' (Hosoda et al., 2003, p. 451).[1]

Perhaps as a consequence of such favorable treatment, attractive people might have it easier in life, be happier, and form more emotionally stable, well-adjusted personalities. In support of this logic, the meta-analysis by Langlois et al. (2000) found that attractive adults generally have higher self-esteem, better overall mental health, and even slightly greater intelligence and better physical health. Even so, not all studies in this area find effects of attractiveness on well-being. Diener, Wolsic and Fujita (1995), for example, showed that objective ratings of attractiveness (when physical enhancers such as make-up and hairstyles were removed) were weakly or not at all related to well-being, whereas self-perceptions of beauty were more strongly linked to adjustment. This is consistent with meta-analyses showing that self-ratings of attractiveness are generally more strongly linked with well-being than objectively measured attractiveness (Feingold, 1992).

Professional models are, of course, defined by their physical beauty, and so one might suspect that they are treated more favorably, form more well-adjusted personalities, and enjoy higher levels of well-being. Several processes might interfere with such advantages, unfortunately, and undermine their psychological adjustment. Our working hypothesis is that the occupational context of modeling is associated with reduced opportunities for the satisfaction of basic psychological needs, and because such need satisfaction is thought to be a prerequisite for well-being and mental health, models might experience lower well-being and greater mental health impairments than non-models. This hypothesis is based on self-determination theory (Ryan & Deci, 2002), which describes how basic need satisfaction might underlie well-being and optimal adjustment.

According to self-determination theory (Ryan & Deci, 2002), three psychological needs (competence, relatedness, and autonomy) function as universal nutriments of well-being, and environmental conditions can either facilitate or hinder the satisfaction of these needs. Ryan and Deci (2002, p. 9) proposed that, ''to the extent that an aspect of the social context allows need fulfillment, it yields engagement, mastery, and synthesis; whereas, to the extent that it thwarts need fulfillment, it diminishes the individual's motivation, growth, integrity, and well-being.'' Straightforward definitions of these needs were offered by Sheldon, Elliot, Kim and Kasser (2001, p. 339): (1) the need for competence is met when a person (''you'') is ''feeling that you are very capable and effective in your actions rather than feeling incompetent or ineffective,'' (2) the need for relatedness is met when you are ''feeling that you have regular intimate contact with people who care about you rather than feeling lonely and uncared for,'' and (3) the need for autonomy is met when you are ''feeling like you are the cause of your own actions rather than feeling that external forces or pressures are the cause of your actions.''

When these needs are thwarted, according to self-determination theory, the stage is set for misery, personality maladjustment, and psychopathology. Several studies have indeed shown that psychological need fulfillment is robustly associated with well-being, both in between-subjects and within-subjects design studies (Baard, Deci, & Ryan, 2004; Kasser & Ryan, 1999; Reis, Sheldon, Gable, Roscoe, & Ryan, 2000; Sheldon, Ryan, & Reis, 1996; Sheldon et al., 2001). There are still some questions about exactly which needs are universally most important, but it appears that competence, relatedness, and autonomy are among the strongest candidates because they are widely recognized as important and are robustly

associated with well-being (Sheldon et al., 2001). Another need that may have universal importance is the need for self-esteem (Sheldon et al., 2001), although self-determination construes self-esteem as a consequence of basic need fulfillment rather than a need itself (Ryan & Deci, 2000).

We hypothesized that the fulfillment of basic psychological needs tends to be thwarted rather than facilitated in the typical occupational context associated with professional modeling. Models are explicitly valued for materialistic, superficial reasons (their appearance) and not for their intrinsic, personal qualities (e.g., personality, wit, character, talent, etc.). This stereotype is so pervasive that exceptions to the rule sometimes make headlines, as in a recent newspaper article claiming that ''a model agency has raised the bar for fashion wannabes—by saying they must have brains as well as beauty'' (Gething, 2006). The message is that models ordinarily have beauty but not intellect.

Being in a career that rewards looks but does not specifically require other talents or skills, then, might offer few opportunities to engage in the kinds of activities that would satisfy one's need for competence. To the extent that models are treated as if they are valued solely for superficial attributes and do not have opportunities to exercise their competence, this need may remain unfulfilled. Beyond that, to the extent that modeling involves frequent traveling and is associated with transitory, superficial rather than deep and genuine relationships, being a model might afford few opportunities to satisfy the basic need for relatedness. Finally, to the extent that modeling requires having to subordinate one's own will to other people's instructions, requests, and demands (e.g., how to look, walk, or pose in a fashion show or photo shoot), the need for autonomy or self-determination might be compromised.

Consistent with self-determination theory, these circumstances may undermine fulfillment of basic needs among fashion models and lead to general unhappiness or personality maladjustment. To our knowledge, though, these associations remain at present no more than speculation. The aim of the two studies we conducted was to illuminate these issues empirically.

The current studies

In the current studies, we measured adjustment among professional models via multiple indexes, including subjective ratings of happiness, life satisfaction, and self-actualization. The first study focused on need-fulfillment and well-being (happiness, life satisfaction, and self-actualization) in a group of professional models versus control community participants from a variety of professions. The second study focused on well-being and features of personality disorder in a different group of models and controls.

Study 1

In the first study, we measured the extent to which the three basic needs stipulated in self-determination theory (Deci & Vansteenkiste, 2004; Ryan & Deci, 2002) were met in a group of professional fashion models versus a comparison group. We also assessed participants' general level of happiness, life satisfaction, and self-actualization, in order to test (1) whether need-fulfillment is associated with well-being, both within and across these groups and (2) whether models report higher or lower levels of well-being. We predicted that models would report relatively lower perceived competence, relatedness, and autonomy, and that this need dissatisfaction, in turn, would be associated with relatively lower levels of happiness, life satisfaction, and self-actualization.

Method

Participants and procedure

The sample consisted of two groups: models ($N = 56$; 63% women) and non-models ($N = 53$; 63% women). Participants for this study were recruited by the second author, who is a model and has professional connections to various modeling agencies in the London area. The models were working as catwalk (fashion) models and fashion-magazine and catalogue models. The models in this study were all currently working and were recruited in various situations related to their jobs. For example, models were typically approached while waiting for their turn to appear at a particular fashion show. Non-models (controls) were recruited through contact with various work places in London or via contacts of the second author. Job titles varied widely for non-models: teacher, make-up artist, restaurant manager, IT-consultant, hedge-fund investor, journalist, nanny, veterinarian. Even though an effort was made to recruit roughly similar age groups, models were slightly younger (range = 17–35; mean = 24.31, SD = 4.53) than non-models (range = 18–37; mean = 27.12, SD = 4.53), $t(105) = 3.47$, $p < 0.01$.[2] No differences between groups were observed with regard to ethnic background; of the 56 fashion-models, 46 indicated ''White,'' four ''Black,'' three ''Asian,'' and two ''Other'' and in the control group, 48 indicated ''White,'' three ''Asian,'' and one ''Black''.

Measures

Basic need satisfaction. Participants completed the basic need satisfaction scale developed by Gagné (2003) in which they indicated on 7-point response scales the extent to which their psychological needs for autonomy, relatedness, and competence are generally satisfied in their lives. A sample autonomy item is: ''I feel like I am free to decide for myself how to live my life''; a sample relatedness item is: ''I get along with people I get in contact with''; and a sample competence item is: ''In my life I do not get much of a chance to show how capable I am'' (reverse-scored). The three subscales achieved acceptable levels of internal consistency (alpha = 0.74 for relatedness, 0.75 for competence, 0.63 for autonomy), and the overall need satisfaction scale (averaged across all 21 items was good, alpha = 0.84). Although it is possible to use similar scales in order to assess need satisfaction specifically in the work context (e.g., Ilardi, Leone, Kasser, & Ryan, 1993), we chose to measure need satisfaction in life in general because we were interested in testing whether models' need satisfaction would be more broadly impaired, not just in one specific life context, but in more general terms.

Life satisfaction. This 5-point scale developed by Diener, Emmons, Larsen and Griffin (1985) was used to measure global satisfaction with life (e.g., the degree to which respondents feel their life is close to their ideal). This scale attained an alpha of 0.83.

Subjective happiness (Lyubomirsky & Lepper, 1999). This 4-item scale of general happiness asks participants about the extent to which they consider themselves to be happy (e.g., compared to their peers, in general). Responses are made on 7-point scales. Alpha internal consistency was 0.82.

Self-actualization. The 15-item self-actualization questionnaire developed by Jones and Crandall (1986) was used as an additional index of well-being. Self-actualizing persons are said to be using their full potential, to be in contact with the ''real self,'' and to be generally psychologically healthy. Sample items include, ''I can express my feelings even when they may result in undesirable consequences'' and ''I am bothered by fear of being inadequate'' (reverse-scored). In this sample, we used a 7-point response scale for each item, and the 15-item self-actualization scale achieved an alpha of 0.64 (similar to the 0.65 reported by Jones & Crandall, 1986).

General health. We also included the commonly used General Health Questionnaire 12 items (GHQ-12; Goldberg & Williams, 1988). This questionnaire assesses general distress, dysphoria, and impaired coping ability. The GHQ-12 is often used as a rough, initial screener for the presence of mental disorders, and reasonable sensitivity and specificity rates have been reported (Goldberg et al., 1997). In a recent confirmatory factor analysis of more than 5,000 participants, Shevlin and Adamson (2005) found that three highly correlated factors could be discerned: anxiety-depression (4 items; alpha in our sample = 0.71), social dysfunction (6 items; alpha = 0.70), and loss of confidence (2 items; alpha = 0.78). The 12-item total GHQ attained an alpha of 0.79 in this study.

Results

Data reduction and descriptive statistics

In order to reduce the number of variables and because these scales are conceptually related and moderately correlated (average $r = 0.35$), we combined our three indexes of psychological well-being: life satisfaction, happiness, and self-actualization. All three questionnaires were scored on 7-point response scales and measured different aspects of well-being. A total, 24-item psychological well-being index was computed as the mean of all self-actualization, happiness, and life satisfaction items (alpha = 0.77).

Mean comparisons

A series of *t*-tests was computed to test whether models differed from non-models in terms of their need satisfaction and psychological well-being (see Table I). These analyses showed that models scored significantly lower on all three (plus the total) need satisfaction scales. The needs for competence, relatedness, and autonomy were all relatively less fulfilled among models than non-models. Additionally, models scored slightly but statistically significantly lower on the total psychological well-being index (combination of self-actualization, happiness, and life satisfaction scales; see Table I). Models did not differ from others, though, on the General Health Questionnaire scales.

Correlations

Correlation analyses were conducted to examine the associations among well-being, need satisfaction, and distress among models and non-models. These analyses are presented in Table II, which shows the model and non-model groups separately. Three main findings can be inferred from the pattern

Table I. Study 1: descriptive statistics and mean comparisons ($N = 109$).

	Models ($N = 56$)	Non-models ($N = 53$)	
	M (SD)	*M* (SD)	*t*(107)
Total need satisfaction (21-item scale)	5.12 (0.59)	5.54 (0.70)	3.44**
Autonomy	4.94 (0.78)	5.32 (0.78)	2.56*
Relatedness	5.60 (0.70)	5.90 (0.76)	2.16*
Competence	4.69 (0.90)	5.33 (0.98)	3.56*
Well-being total scale (24-item)	4.78 (0.55)	5.02 (0.69)	2.04*
Life satisfaction	4.63 (1.13)	4.91 (1.28)	1.18
Happiness	5.00 (0.93)	5.25 (1.05)	1.32
Self-actualization (10-item)	4.77 (0.62)	4.97 (0.65)	1.69
General health questionnaire (distress)	2.42 (0.39)	2.34 (0.40)	−1.09
Anxiety-depression	2.13 (0.51)	2.09 (0.62)	−0.28
Social dysfunction	2.79 (0.42)	2.68 (0.46)	−1.36
Loss of confidence	1.91 (0.61)	1.79 (0.64)	−1.01

*$p < 0.05$; **$p < 0.01$.

Table II. Correlations among models (above diagonal) and non-models (below diagonal).

	1	2	3	4	5	6	7	8	9	10	11	12
1. Total need satisfaction	–	0.79**	0.72**	0.76**	0.54**	0.19	0.39**	0.50**	−0.33*	−0.30*	−0.24	−0.28*
2. Autonomy	0.89**	–	0.33*	0.46**	0.52**	0.12	0.28*	0.54**	−0.27*	−0.36**	−0.12	−0.21
3. Relatedness	0.81**	0.61**	–	0.27*	0.23	0.10	0.17	0.20	−0.01	0.01	−0.02	−0.03
4. Competence	0.83**	0.67**	0.43**	–	0.48**	0.21	0.43**	0.40**	−0.47**	−0.34*	−0.43**	−0.38**
5. Well-being: total	0.74**	0.73**	0.52**	0.62**	–	0.58**	0.67**	0.79**	−0.32*	−0.21	−0.26	−0.33*
6. Life satisfaction	0.53**	0.51**	0.39**	0.45**	0.74**	–	0.51**	0.02	−0.16	−0.09	−0.15	−0.14
7. Happiness	0.48**	0.44**	0.36**	0.43**	0.73**	0.55**	–	0.24	−0.18	−0.03	−0.19	−0.25
8. Self-actualization	0.64**	0.66**	0.45**	0.53**	0.84**	0.30*	0.39**	–	−0.29*	−0.24	−0.21	−0.28*
9. GHQ-12	−0.23	−0.28*	0.02	−0.33*	−0.48**	−0.18	−0.47**	−0.47**	–	0.80**	0.84**	0.75**
10. Anxiety-depression	−0.12	−0.22	0.05	−0.14	−0.41**	−0.22	−0.44**	−0.34*	0.79**	–	0.42**	0.52**
11. Social dysfunction	−0.20	−0.19	0.03	−0.35**	−0.25	0.02	−0.25	−0.31*	0.79**	0.32*	–	0.50**
12. Loss of confidence	−0.20	−0.23	−0.07	−0.22	−0.53**	−0.33*	−0.42**	−0.47**	0.57**	0.39**	0.19	–

*$p < 0.05$; **$p < 0.01$.
Note: correlations among models ($N = 56$) shown above the diagonal; correlations among non-models ($N = 53$) below the diagonal.

of results: (1) need satisfaction was strongly and consistently linked with various indexes of psychological well-being (and this was slightly more consistently true among non-models); (2) in both groups, the non-satisfaction of psychological needs was only weakly, if at all, associated with various indexes of distress and dysphoria (i.e., GHQ-12 scales); and (3) especially among models, feelings of incompetence were linked with distress/dysphoria (GHQ-12 scales).

Mediation: Do models have lower well-being because their needs are less satisfied?

Additional analyses were conducted to test whether the association between occupational context (model vs. non-model) and well-being (total scale) was mediated by need satisfaction (total scale). Such mediation analyses inform the question of whether models' lower levels of well-being might be explained by their lower levels of need satisfaction, as the mean comparisons had indicated (see Table I).

As shown in Figure 1, occupational context (coded as a dummy variable, where 1 represented models and 0 non-models) was significantly associated with both well-being ($F[1, 107] = 4.15$, $p < 0.05$; $R^2 = 0.04$) and with need satisfaction ($F[1, 107] = 11.83$, $p < 0.001$; $R^2 = 0.10$), such that models reported lower well-being as well as lower need satisfaction. As shown in Figure 1, need satisfaction was also strongly associated with well-being ($F[1, 107] = 87.27$, $p < 0.001$; $R^2 = 0.45$). When both occupational context (model vs. non-model) and need satisfaction were simultaneously entered as predictors of well-being, the model as a whole was significant ($F[2, 106] = 43.29$, $p < 0.001$; $R^2 = 0.45$), but only the effect of need satisfaction on

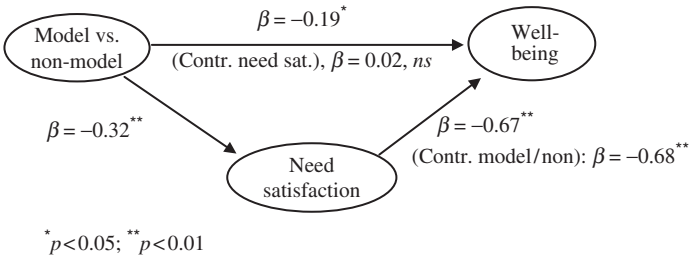

Figure 1. Mediation model: the association between occupational context and well-being is mediated by need satisfaction. Contr. need sat. = controlling for need satisfaction; Contr. model/non = controlling for occupational context (model vs. non-model).

well-being remained uniquely significant; the effect of work-context on well-being dropped out entirely (see Figure 1). This is consistent with the requirements for mediation (Baron & Kenny, 1986); therefore, the relationship between occupational context and well-being could be statistically explained by need satisfaction. Thus, models appeared to experience lower well-being *because* their needs were less satisfied.

Regression analyses: How much variance in well-being can be explained?

Three regression analyses were conducted in which all three need satisfaction scales were entered as simultaneous predictors of well-being (total scale), both in the total sample and separately among models versus non-models. These analyses showed that, in the combined sample, 46.8% (adjusted R^2) of the variance in well-being could be accounted for by the satisfaction of the three needs, $F(3, 108) = 6.90$, $p < 0.001$. In the final model, the effects of autonomy and competence were uniquely significant, $p < 0.01$. Among models, 30.7% (adjusted R^2) of the variance in well-being could be accounted for by the three needs, $F(3, 55) = 9.10$, $p < 0.001$. Among non-models, the three needs accounted for 54.8% (adjusted R^2) of the variance in well-being, $F(3, 52) = 21.97$, $p < 0.001$. Thus, roughly between one-third and one-half of the variance in well-being could be explained by psychological need satisfaction.

Graphical depiction of group differences and individual differences within groups

The association between need satisfaction and well-being (total scales) in models versus non-models is also graphically depicted in Figure 2. We believe that it is important to include such depictions of raw data in order to convey the meaning of the data more fully. Lazarus (2003) made the important point that most social science research (and positive psychology research in particular) tends to exaggerate the

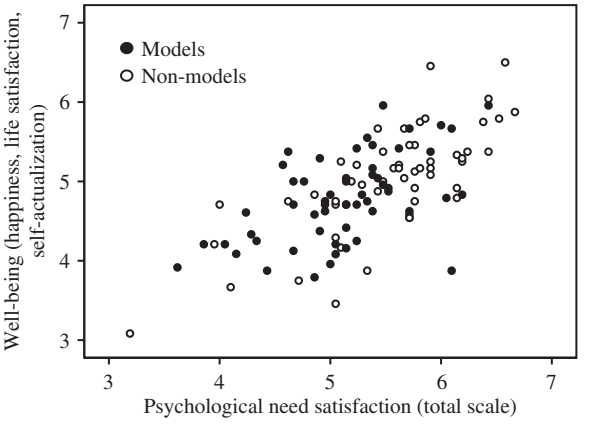

Figure 2. The relationship between psychological need satisfaction and well-being in models and non-models.

magnitude of group differences and downplay individual differences within groups. He demonstrated that the graphical depiction of group overlaps can rectify such unjustified positive spin and lead to a more realistic appreciation of inter-group as well as within-group differences. Consistent with this recommendation, Figure 2 shows that a slightly larger proportion of non-model datapoints could be located in the right and upper portion of the plot, indicating that this group tended to score higher in both need satisfaction and well-being. Note, for example, the higher density of non-model datapoints in the area of need satisfaction >6.

At the same time, not all non-models were satisfied in their needs or experienced high well-being. One particular case (perhaps somewhat of an outlier) could be located in the bottom left area. Interestingly, we also collected some qualitative data (which is not the general focus of this paper) that illuminated the nature of this unhappy non-model case. When asked to briefly state whether her job had anything to do with her happiness, this person (female in her mid-twenties who worked as a journalist) stated: ''I feel my job is the one factor that brings depression and misery into my life day to day. A depressing routine that means having to spend so

many of my waking hours, with people I care little for, and that care nothing for me. All the while feigning.'' Fortunately, such glum testimonials were the exception rather than the rule.

Discussion

The fashion models in this study reported slightly lower levels of well-being and substantially lower levels of psychological need satisfaction, compared to non-model comparison participants. Mediation analyses suggested that the lower well-being among models can be accounted for by their lower need satisfaction. In both groups, the satisfaction of basic needs, especially autonomy and competence, was quite consistently linked with well-being. On the whole, these findings point to the importance of need satisfaction as a prerequisite of happiness and well-being. If needs are not adequately met, well-being will be impaired, consistent with the assumption of self-determination theory (Ryan & Deci, 2002). It appears that there is something about the modeling profession that might interfere with the attainment of basic psychological needs, and this in turn appears to be associated with reduced well-being among models. Because of the correlational design of this study, of course, causal relationships cannot be inferred.

The findings suggest that models, despite their high levels of attractiveness, do not have an advantage compared to others in terms of their well-being and adjustment. Nevertheless, this study did not suggest that models are at great risk for depression or other obvious forms of psychopathology, they did not differ from the comparison participants in levels of distress, as measured by the GHQ-12. However, are there other indicators of impaired functioning or personality adjustment that simple measures such as the GHQ-12 do not capture? This was a question we aimed to address in Study 2, in which personality disorder features were compared with a simple measure among models versus non-models.

Study 2

In this study, we compared features of the ten personality disorders in a new sample of exclusively female models and non-models. The participants in this study were recruited by the third author, who also works as a model but has different professional contacts from those we used in the first study. The aim of this study was to take a broader look at the personality adjustment of fashion-models, compared to non-models.

The DSM-IV-TR (American Psychiatric Association, 2000) personality disorders (PDs) include a large range of problematic personality patterns. There is increasing consensus in the PD literature that these disorders should not be conceptualized as categorically distinct from each other or from normality (e.g., Livesley & Jang, 2005; Skodol et al., 2005). Instead, they can be viewed as partially overlapping dimensions on which even non-clinical, normal adults differ in degree of severity. In previous studies, we have found that PD features can be meaningfully studied in clinical (e.g., Meyer, Pilkonis, Proietti, Heape, & Egan, 2001) as well as non-clinical groups (Meyer, 2002; Meyer, Pilkonis, & Beevers, 2004; Meyer, Ajchenbrenner, & Bowles, 2005). Therefore, it seemed like a reasonable assumption that these PD features should also be measurable and differ meaningfully in this non-clinical sample.

Our hypothesis was that models, compared to non-models, might exhibit more diverse and more severe personality maladjustment, compared to others. Although this hypothesis was again based on the rationale that models were expected to differ in psychological need satisfaction, we unfortunately did not include a previously validated measure of need satisfaction in this study. Instead, two simple items inquired about the relative satisfaction of the needs for relatedness and self-esteem. We aimed to test, therefore, whether any potential association between occupational status (model vs. non-model) and personality maladjustment could be statistically accounted for by differences in the satisfaction of these needs.

Method

Participants and procedure

Two groups of women between the ages of 18 and 35 were recruited for this study: (1) A group of 35 models from two different modeling agencies in London (mean age 23.57, SD = 3.33; range = 18–32) and a group of 40 non-models from two companies in London (mean age = 26.95; SD = 3.39; range = 21–34). Again, even though an effort was made to recruit participants of roughly the same age, the models were slightly younger than the non-models, $t(73) = 4.34$, $p < 0.001$. Non-models were recruited from two work settings, one design office and one literary agency. In terms of ethnic background, the majority (84%) indicated ''White/Caucasian'' and the other 16% reported various other backgrounds, such as Indian or Black/African. All participants in this study were recruited by the third author through professional contacts, however, none of the participants were personally well-known to the author (i.e., personal acquaintance should not have influenced completion of the questionnaires).

The models in this study were recruited via their agencies, typically while the models were checking to see whether new jobs or assignments were available for them. This was slightly different from the recruitment procedure used in the first study. That is, all the models in the first study were recruited while on the job, whereas the models in this second study were recruited while they were visiting their agencies to inquire about the availability of new assignments. Therefore, an important difference to keep in mind is that the models in the second study were, on average, less likely to currently have ongoing assignments. As will be evident later, this difference might have caused greater levels of distress among these models.

Materials and procedure

Psychological well-being: Life satisfaction and happiness. As in Study 1, the 5-item Life Satisfaction Scale developed by Diener et al. (1985) was also used to measure global satisfaction with life. This scale attained an alpha value of 0.80 in this study. Also consistent with Study 1, we used the 4-item subjective happiness scale developed by Lyubomirsky and Lepper (1999). Internal consistency for this scale was again 0.82. We did not include the self-actualization scale that had been included in Study 1. The combined life satisfaction and happiness scales achieved an alpha of 0.86. A 9-item total well-being scale was computed as the mean of all happiness and life satisfaction items.

General health. As in the first study, we included the General Health Questionnaire 12 item (Goldberg & Williams, 1988). We computed a total GHQ-12 scale (alpha = 0.81) as well as anxiety-depression (4 items; alpha in this sample = 0.78), social dysfunction (6 items; alpha = 0.65), and loss of confidence scales (2 items; alpha = 0.65).

Need satisfaction. Unfortunately, we did not include the previously validated need satisfaction questionnaire that had been included in Study 1, due to concerns about participant burden. However, two straightforward questions were included as a simple estimate of the extent to which the needs for relatedness and self-esteem were met. According to Sheldon et al. (2001), the need for self-esteem is satisfied when a person (''you'') is ''feeling that you are a worthy person who is as good as anyone else rather than feeling like a loser.'' In the present study, the item to measure self-esteem was ''I like myself'' and the item to measure relatedness was ''I have many good friends.'' Responses were made on 4-point scales, from 1 (disagree strongly) to 4 (agree strongly). When these two items were combined into a brief need satisfaction index, the resulting alpha was 0.74. Higher values on this scale indicated that the needs for relatedness and self-esteem are relatively better satisfied.

Personality disorder features. Commonly used, previously validated screening questionnaires for personality disorders were deemed to be too long and therefore unfeasible for this study. For example, the SCID-II (Structured Clinical Interview for DSM, Axis II; First, Spitzer, Gibbon, & Williams, 1997; see Meyer et al., 2004, for a detailed description), one of the shorter PD screening questionnaires, still includes 119 items. Therefore, a straightforward new questionnaire was devised. This 56-item questionnaire was termed the Personality Disorders Features Screener (PDFS-56); it is designed to measure non-clinical features of the ten personality disorders specified in DSM-IV-TR (American Psychiatric Association, 2000). The questionnaire is essentially a simplified version of other personality disorder screening questionnaires similar to the ones we have previously used in research with non-clinical samples (e.g., Meyer, 2002; Meyer & Carver, 2000; Meyer et al., 2005). Specifically, the PDFS-56 is based on questionnaires such as the SCID-II. The items of the PDFS-56 were phrased in such as way as to make them easily acceptable (non-clinical phrasing) for use with the general (non-psychiatric) population (see Table III).

The purpose of this questionnaire is to obtain a quantitative estimate of general tendencies related to the behaviors and cognitive-emotional experiences delineated in the DSM for each of the personality disorders; however, the screening questionnaire does *not* aim to be an exhaustive measure of each DSM personality disorder symptom, nor does it aim to be used for clinical or diagnostic purposes. Pilot testing with a small group of participants ($N = 10$) indicated that the questionnaire was easily accepted by most people in the general population, even though some questions undoubtedly ask about content of a personal nature. A 4-point response scale was used; participants were asked to indicate whether they disagreed strongly (1), disagreed slightly (2), agreed slightly (3), or agreed strongly (4) with each item. The following introduction was also presented: ''Each item of this questionnaire is a statement that a person may either agree with or disagree with. For each item, indicate how much you agree or disagree with what the item says. Please respond to all the items; do not leave any blank. Please be as accurate and honest as you can be. Respond to each item as if

Table III. The Personality Disorder Features Screener (PDFS-56).

Subscale	Item wording
Paranoid features, 5 items, alpha = 0.63	1. I have a hard time trusting a partner because I know how common it is that they might cheat or secretly deceive me. 2. It happens quite often that people want to take advantage of me, but I'm usually good at detecting this and doing something about it. 3. I'm probably a bit more suspicious than the average person, but that means that I get tricked less easily. 4. Most people are much less trustworthy (and more selfish) than they would like you to believe. 5. I don't easily share secrets with others because they tend to use it against you at a later time.
Schizoid features, 4 items, alpha = 0.54	6. I am known as a rather cold, unemotional person, but that's just who I am. 7. I actually don't have real friends and that's okay with me. 8. I prefer to spend time on my own rather than with other people, and most of my hobbies require little contact with others. 9. Other people are simply not very important to me (including family members).
Schizotypal features, 5 items, alpha = 0.60	10. I don't feel comfortable in social situations because I don't trust others. 11. I'm aware that others often think of me as strange, odd, peculiar, or bizarre because of the way I dress or act. 12. My beliefs and ideas may seem strange, odd, or eccentric to others (but I like them). 13. My sense of humor is very different from the majority and people often "don't get it" or "don't get me." 14. I can often sense or see special things or detect meanings that other people just don't notice.
Antisocial features, 6 items, alpha = 0.67	15. I've broken the law many times. 16. If someone seriously annoys me or gets in my way, I can get quite nasty with them (and I'm not a weak kind of person who regrets it later!). 17. I'm good at tricking others or making them believe something that isn't true, and I use this skill for my benefit. 18. If I'm honest, I have to say that I often lie or cheat to get ahead in life. 19. I'm not the kind of person who is plagued by guilt or shame just because I might have upset someone. 20. As a child I used to get into a lot of trouble for "bad" behaviour (fighting, lying, stealing, etc.).
Borderline features, 10 items, alpha = 0.81	21. My emotions are like a roller-coaster: very intense and quickly going from very high to very low. 22. Often people that I thought would be great turn out to be horrible. 23. When I'm really stressed, I sometimes start to feel strange, weird, or paranoid (as if the whole world is against me). 24. I sometimes feel so desperate or awful that I have thoughts of wanting to harm or even kill myself. 25. My relationships are usually extremely intense, stormy, emotional, and unstable. 26. I often get so angry or even hateful that I hardly recognize myself later. 27. I get panicky or desperate when I think someone close will leave me or abandon me. 28. I often feel empty inside: not sure who I am or where I'm going with my life. 29. If something upsets me, my emotions can get out of control rather easily. 30. I often do things for a kick or a thrill even though I know they may be self-damaging (e.g., having sex with people I hardly know, doing drugs, getting extremely drunk).
Histrionic features, 6 items, alpha = 0.66	31. I'm a "social butterfly" who can easily show whatever emotions the situation requires. 32. I love being the "life of the party," I'm a born entertainer! 33. I can be very sexy or seductive, and I know how to use it! 34. Most people who meet me almost instantly love me because I'm such a charming person! 35. Some people may consider me to be overly dramatic, but that's just my style! 36. I may not be the most precise, but when I speak it's always animated, full of passion, charm, and flair.

(*continued*)

Table III. Continued.

Subscale	Item wording
Narcissistic features, 5 items, alpha = 0.66	37. I'm a multi-talented person who is actually far more gifted than average people. 38. Other people may find me a bit grandiose or ''full of myself,'' but if I'm perfectly honest I actually do think that I'm in many ways more special or better than average people. 39. Even though they may not always admit it, other people often admire me because of my abilities or talents. 40. Other people at times find me arrogant, but that's really their problem! 41. I'm sure that if I wanted to, I could achieve extreme heights of success, power, or brilliance in life.
Avoidant features, 5 items, alpha = 0.79	42. I often feel somewhat inferior or inadequate in social situations. 43. I'm socially quite shy, restrained, or inhibited. 44. I don't like getting involved with other people because I often feel they may ridicule or not accept me. 45. I find it hard to relax when I'm around others because I always feel they may reject or disapprove of me. 46. I'm very sensitive to other people's criticism.
Dependent features, 5 items, alpha = 0.67	47. I can be a bit submissive, needy, or clingy in close relationships, but I try to not let that become a problem. 48. I'm not good at making decisions by myself; I need someone trusted to make the decisions for me. 49. It's hard for me to disagree with others because I fear that if I disagree, they may dislike me. 50. If I were all alone, without a supportive partner, I probably would feel quite helpless and unable to make it. 51. Being in a close relationship is extremely important to me; it gives my life purpose and direction.
Obsessive-compulsive features, 5 items, alpha = 0.50	52. I often insist that things be done exactly my way, and I get annoyed when other people try to ''cut corners'' or perform a job poorly. 53. I'm known to be a bit of a perfectionist or ''control freak.'' 54. My standards for performance are extremely high, I'm never satisfied with ''just getting the job done''; it needs to be done very, very well. 55. I like to attend to details, rules, lists, order, and schedules, in order to ensure that everything proceeds correctly, without errors. 56. I can be quite stubborn, but it's usually in the service of doing things the right way and not compromising my high standards.

it were the only item. That is, don't worry about being 'consistent' in your responses.''

Internal consistency coefficients and item content for this questionnaire presented in Table III. As shown in the Table, all ten PDFS-56 scales achieved an alpha of 0.50 or higher, which is considered by Nunnally (1978) to be a minimally acceptable value. We also computed a total PD features severity scale (mean of all 56 items). This total-PD index achieved an alpha of 0.86.

Results and discussion

Descriptive statistics and mean comparisons

Table IV presents the descriptive statistics and mean comparisons among models and non-models. Models scored significantly lower on both the self-esteem and relatedness items, suggesting that these needs were relatively less adequately met. They also reported lower overall well-being, life satisfaction, and happiness. Models generally did not differ from others in terms of their mental health symptoms; that is, their scores on the GHQ-12 did not differ from non-models, with the exception that models reported having a slightly lower sense of confidence. Table IV also shows that models differed significantly on seven of the ten PD scales (plus the overall PD severity scale). That is, models reported significantly more pronounced features of paranoid, schizoid, schizotypal, antisocial, borderline, and narcissistic PD, and significantly less pronounced features of obsessive-compulsive PD. It is important to note, though, that (1) these scales were intended to measure non-clinical PD features and not actual clinical diagnoses and (2) that the means were all relatively low (below the scale mid-point of 2.50 in most cases), even in the model group. That is, even though models scored higher than non-models, they still tended to ''slightly disagree,'' on average, with most items.

Table IV. Study 2: descriptive statistics and mean comparisons.

	Models ($N = 35$) M (SD)	Non-models ($N = 40$) M (SD)	$t(73)$
Need satisfaction (self-esteem/relatedness), 2-item index	2.81 (0.65)	3.35 (0.43)	4.25**
Self-esteem (single item)	2.66 (0.77)	3.18 (0.45)	3.63**
Relatedness (single item)	2.94 (0.68)	3.53 (0.60)	3.93**
Well-being total scale (9-item)	3.99 (0.83)	4.57 (0.89)	2.88**
Life satisfaction	3.66 (0.92)	4.32 (1.01)	2.93**
Happiness	4.41 (0.87)	4.89 (1.11)	2.04*
General Health Questionnaire (Distress)	2.64 (0.49)	2.61 (0.35)	−0.29
Anxiety-depression	2.20 (0.60)	2.29 (0.60)	0.63
Social dysfunction	3.02 (0.53)	2.29 (0.60)	0.23
Loss of confidence	2.39 (0.75)	1.98 (0.65)	−2.54**
Personality disorder features (total scale)	2.25 (0.18)	1.93 (0.27)	−5.82**
Paranoid	2.55 (0.35)	1.92 (0.47)	−6.59**
Schizoid	1.86 (0.33)	1.39 (0.44)	−5.20**
Schizotypal	2.15 (0.34)	1.78 (0.55)	−3.45**
Antisocial	2.20 (0.38)	1.50 (0.36)	−8.18**
Borderline	2.30 (0.43)	1.88 (0.53)	−3.80**
Histrionic	2.30 (0.47)	2.34 (0.54)	0.31
Narcissistic	2.47 (0.54)	1.96 (0.55)	−4.14**
Avoidant	2.17 (0.62)	1.93 (0.59)	−1.73
Dependent	2.04 (0.55)	1.94 (0.54)	−0.79
Obsessive-compulsive	2.30 (0.42)	2.67 (0.43)	3.76**

*$p < 0.05$; **$p < 0.01$.

Table V. Personality disorder features, well-being, and symptoms in Study 2 ($N = 75$): correlation coefficients.

	Happiness	Life satisfaction	GHQ-12 (total)	Self-esteem "like myself"	Relatedness "many friends"
PD features (total)	−0.49**	−0.41**	0.48**	−0.42**	−0.40**
Paranoid	−0.33**	−0.36**	0.27*	−0.42**	−0.44**
Schizoid	−0.51**	−0.48**	0.27*	−0.31**	−0.34**
Schizotypal	−0.37**	−0.39**	0.15	−0.19	−0.23*
Antisocial	−0.25*	−0.13	0.09	−0.24*	−0.30**
Borderline	−0.61**	−0.45**	0.54**	−0.52**	−0.48**
Histrionic	0.37**	0.23	0.03	0.20	0.34**
Narcissistic	0.14	0.08	0.01	0.02	0.16
Avoidant	−0.57**	−0.45**	0.49**	−0.50**	−0.53**
Dependent	−0.55**	−0.44**	0.46**	−0.32**	−0.36**
Obsessive-compulsive	0.32**	0.37**	0.01	0.30**	0.24*

*$p < 0.05$; **$p < 0.01$.
Note: Self-esteem = single item ("I like myself"); relatedness = single item ("I have many good friends").

Subsidiary analyses: Validity of the PD features questionnaire

Additional analyses showed that most of the PD scales were associated with lower well-being and greater distress/symptoms (see Table V). The exceptions were, however, that obsessive-compulsive features and, to a slightly lesser degree, histrionic features were associated with greater well-being. That is, these scales appeared to measure slightly beneficial aspects of personality, in terms of their associations with psychological well-being. This is consistent with general descriptions of the personality disorders, which sometimes regard these two personality disorders as less detrimental than many of the other ones (e.g., Meyer & Pilkonis, 2005). Indeed, a previous study showed that obsessive-compulsive features in psychiatric patients can lead to relatively greater improvement in functioning over time (Meyer et al., 2001), and in another study, obsessive-compulsive features were less strongly associated with occupational and social impairment than features of borderline, schizotypal, and avoidant PD (Skodol et al., 2005). As noted above, fashion

models scored lower on obsessive-compulsive features and they did not differ from others on the histrionic PD scale. Once again, this points to the generally more problematic personality profile of fashion models, compared to the non-models in this study.

Are differences in well-being and PD severity explained by need dissatisfaction?

A series of regression analysis was conducted to examine whether the effect of occupational status (model vs. non-model; coded as a dummy variable) on well-being (combined happiness and life satisfaction) or on PD severity could be said to be mediated by need dissatisfaction, as measured by the 2-item self-esteem and relatedness index. To demonstrate mediation, a previously significant association between occupational status and well-being (or between occupational status and PD severity) would have to reduce in magnitude and become insignificant once the mediator (need satisfaction) is entered. Additionally, occupational status would have to be significantly associated with the mediator, and the effect of this mediator (need satisfaction) on well-being and on PD features would have to remain significant even when both occupational status and well-being are entered simultaneously as predictors.

These analyses showed that occupational status was indeed significantly associated with lower need satisfaction, $\beta = -0.45$, $p < 0.001$, with lower well-being, $\beta = -0.32$, $p < 0.01$, and with more pronounced PD features, $\beta = 0.56$, $p < 0.001$. However, need satisfaction was only marginally associated with well-being, $\beta = 0.20$, $p = 0.08$, but it was (inversely) and significantly associated with PD features, $\beta = -0.34$, $p < 0.01$. When occupational status and need satisfaction were simultaneously entered as predictors of well-being, only the effect of occupational status was significant, $\beta = -0.28$, $p < 0.05$. When both of these variables were simultaneously entered as predictors of PD severity, again, only the effect of occupational status was uniquely significant, $\beta = 0.52$, $p < 0.01$. These analyses, therefore, were not supportive of the idea that models would experience lower well-being and more pronounced PD features because their needs for self-esteem and relatedness are less satisfied. In other words, the results did not support the idea that the effect of occupational status on well-being and PD severity was mediated by need satisfaction. These results must be interpreted in light of the fact, though, that in this study we only used a simple 2-item self-esteem and relatedness need satisfaction measure and not the far more sophisticated measure of three needs (relatedness, competence, autonomy) that was used in Study 1.

Well-being comparisons between Study 1 and Study 2

A final set of analyses aimed to directly compare the levels of happiness among models and non-models in Study 1 versus Study 2. In both studies, the same questionnaires were used to measure happiness and life satisfaction, so it was possible to conduct ANOVAs to compare these indicators of well-being directly. Inspection of Tables I and IV suggests that participants in Study 2 were generally less happy and less satisfied with their lives, compared to those in Study 1.

Two ANOVAs confirmed this suspicion. With happiness as a dependent variable, a significant group effect was found in a one-way ANOVA with four levels (Study 1-model; Study 1-control; Study 2-model; Study 2-control), $F(3, 183) = 5.03$, $p < 0.01$. Tukey post-hoc tests revealed that the models in Study 2 were significantly less happy than both the models and the non-models in Study 1. The non-models in Study 2, by contrast, did not differ significantly from either the models or non-models in Study 1. With life satisfaction as a dependent variable, a significant group effect was also confirmed, $F(3, 182) = 9.56$, $p < 0.01$. Tukey post-hoc tests showed that the models in Study 2 were significantly less satisfied with their lives than all three other groups (models in Study 1 and non-models in both studies). The other three groups, in turn, did not differ significantly from each other. In summary, these comparisons suggested that the models in the second study were less happy and satisfied with their lives than all other participants in these studies.

Still, before we pathologize this group, it is worth pointing out that even the models in Study 2 scored near the mid-point of the 7-point happiness and life satisfaction scales (whereas all other groups scored significantly higher). Thus, it would not be fair to conclude that these participants were clinically unhappy or dissatisfied; they were simply in the middle, neither particularly happy nor unhappy. As noted above, the models in Study 2 differed from those in Study 1 in that the former group was recruited while looking for potential new job assignments, whereas the latter group was recruited while actually performing an ongoing assignment. The insecurity associated with not having a current job assignment among the models in Study 2, then, might have contributed to their lower levels of happiness and well-being.

General discussion

In two separate studies, fashion models were found to exhibit lower psychological well-being and less fulfillment in their basic psychological needs. Compared to other adults recruited from a range of professions, the models in the first study felt significantly less autonomous, competent, and related to others. This sense of suboptimal need satisfaction, in turn, appeared to translate directly into perceptions of slightly lower psychological well-being (happiness, life satisfaction, and self-actualization), compared to the non-models in the same study. The models in the second study felt more clearly less happy and satisfied with their lives, compared to all others, across both studies. These models also reported lower self-esteem and less social connectedness as well as more pronounced features of various personality disorders.

In general terms, the PD analyses in Study 2 suggested that the models, compared to others, were slightly more suspicious, non-conforming, intensely emotional, interpersonally alienated, eccentric, and self-centered. At the same time, they were less conscientious/perfectionistic but did not differ in terms of dramatic attention-seeking or shyness. The gestalt emerging from this is clearly not a flattering one. Relative to others, the models in Study 2 described their personalities as clearly less optimally adjusted. It will be necessary, of course, to replicate these group differences and to thoroughly establish the construct validity of our ad hoc measure of personality features.

The main findings of these studies are consistent with the hypothesis we derived from self-determination theory (Ryan & Deci, 2002). According to this theory, optimal well-being, growth, and vitality result when the needs for competence, autonomy, and relatedness are met. When these needs remain unfulfilled, for whatever reason, well-being will be impaired and maladjustment might result. Our mediation analysis in Study 1 showed that differences in need satisfaction could account for the differences in well-being between models and non-models. Thus, a main tenet of self-determination theory could be supported: to the extent that needs were unfulfilled, well-being was compromised among the models in Study 1. In Study 2, we were not able to adequately test for this type of mediation because we had not included a comprehensive measure of need fulfillment. The two single items measuring the needs for self-esteem and relatedness in Study 2 were also strongly linked with well-being, but they could not account, in a statistical sense, for the lower well-being among models versus non-models.

Why did models feel relatively less fulfilled in terms of their basic needs? We speculated in the introduction that various aspects of the modeling career might interfere with a model's ability to have her needs adequately met. Fashion models are expected to look good, but they are not valued for their ability to perform difficult, skilled tasks. Therefore, their daily routine may not permit satisfaction of the need for competence. Perhaps more than is true in many other professions, models might also have to regularly subordinate their wishes to the mandates of their clients and employers, which would interfere with the satisfaction of their need for autonomy. Finally, in their often hectic traveling from one fashion shoot to another, models might have fewer opportunities than many others to form relationships with others that go beyond superficial acquaintance. Therefore, their need for relatedness may often be met inadequately.

Some of the qualitative data we collected, which is not fully analyzed in this report, also supported these impressions. For example, one model wrote: ''I am a model and although I earn a lot I feel that I'm undervalued as a person and feel I haven't fulfilled my goals in life yet. But I am happy in my personal life as I have loving people around me.'' In response to the question of whether her job has anything to do with her personal happiness, another model wrote: ''My job as a model contributes to my happiness but also to some of my sadness as it can be quite lonely at times.'' Even though these quotes (and these studies in general) can only provide a first glimpse at the issue, we suspect that many aspects of the occupational context associated with the modeling profession might systematically interfere with the models' ability to satisfy their basic needs. This suspicion, however, needs to be replicated and further examined in follow-up studies.

There is another plausible, but somewhat more sinister, interpretation of our findings. That is, it might be the case that nothing is particularly different about the occupational context in which models work; instead, their lower levels of need fulfillment might be attributable to internal rather than external causes. Indeed, it is possible that the personality maladjustment we observed in Study 2 is not a consequence of working in a modeling environment but, instead, is a pre-existing characteristic of individuals that are drawn to a modeling career. The problematic personality characteristics we documented in Study 2 might then interfere with the model's ability to satisfy his or her basic needs. In other words, it might be true that people do not just require model-looks in order to become models but also often have the kinds of slightly more narcissistic, intensely emotional, non-conforming, and socially alienated personalities that we observed in Study 2.

With such a problematic personality profile, one would expect that it might be more difficult to engage constructively with one's social environment and regularly attain need satisfaction.

Is there any reason to believe, though, that models might generally have more maladjusted personalities or even a higher incidence of personality disorders, compared to others? Beyond the tabloid hype and sensationalist speculation noted in the introduction, this is relatively uncharted empirical territory. In a recent book that drew wide media attention in Germany, the renowned psychiatrist and university professor Borwin Bandelow (2006) wrote about the ubiquity of borderline, antisocial, and narcissistic personality disorders among ''celebrities'' from the music, film, and fashion industry. Bandelow did not undertake a scientifically acceptable investigation of personality maladjustment among these celebrities but merely speculated, based on what is known about them from popular media, about the possible personality antecedents and correlates of fame and stardom. He argued that personality features such as intense attention-seeking, urges for admiration, excessive needs for reassurance, and reckless disregard of social norms actually predispose certain individuals to achieve fame and celebrity status. The dark side, of course, is that these same personality characteristics can also have tragic consequences and even lead to suicide. In Bandelow's book, examples such as the tragic deaths of Kurt Cobain, Janis Joplin, Jimi Hendrix, for example, are invoked to substantiate these assertions. Our point here is not to evaluate the scientific legitimacy of Bandelow's claims but simply to note that the larger issue appears to be recognized as important, even in non-scientific circles. More scientifically rigorous studies will be needed, though, to carefully delineate the extent to which certain forms of personality maladjustment might be critical antecedents, consequences, or both, of success in the fashion industry and other related branches.

Limitations

We also wish to note that the findings from our two studies ought to be interpreted in light of several important limitations. We already noted that the correlational design used in our study does not permit any cause–effect conclusions. Longitudinal and experimental studies are needed to test, for example, whether changes in need satisfaction can directly cause improvements or decrements in well-being and personality adjustment. Deci and Ryan (2002, p. 438) noted in this regard that ''the one applied area that has received the least attention but is ripe for exploration is that of psychotherapy.'' Intervention studies would be ideally suited to test whether the needs for autonomy, competence, and relatedness can actually be directly altered in a therapeutic context. We concur with Deci and Ryan and regard this domain as one of the most exciting and promising directions in positive psychology research.

Another important limitation concerns our measurement of personality disorder features in Study 2. We designed a brief questionnaire to measure features of each of the ten DSM-IV personality disorders, but it might have been better, of course, to have used thorough, previously validated instruments for this purpose. There is no ''gold standard'' for the measurement of personality disorders, unfortunately, and many currently available measures appear to perform similarly. Indeed, in our own studies, we have used a variety of personality disorder measurement approaches, ranging from lengthy diagnostic interviews and informant ratings (Meyer et al., 2001) to ad hoc measures derived from the DSM-IV (Meyer & Carver, 2000) to previously validated but lengthy screening questionnaires (Meyer, 2002; Meyer et al., 2005). In these studies, we have repeatedly felt the need for a much briefer, non-clinical screening measure of features of all ten personality disorders. We pilot-tested our PDFS-56 and present initial findings here, essentially, in the form of an extended pilot study. By making this questionnaire available in full form, we hope to encourage further validation efforts. Nevertheless, we note that the correlations we observed must be interpreted with caution, given the unvalidated nature of our screening measure.

Yet another potential problem that deserves to be highlighted concerns the questionable representativeness of the samples of models and non-models we used in this study. Participants were drawn from a variety of professional modeling agencies in London, one of the world's centers for modeling and the fashion industry. Because two of the authors were models themselves, we were able to access these groups in a relatively uncomplicated manner, which was a clear advantage, but at the same time this might have introduced some biases in our sampling procedure. For example, it is conceivable that potential participants were motivated, for various reasons, to participate in our study, and these motivations might have influenced the nature of their responses. Specifically, the knowledge that the authors (M. E. and M. H.) were not only fellow models but also psychology students might have motivated some participants to self-disclose information that they would have otherwise kept private.

The considerable unhappiness and personality maladjustment they reported might reflect these sources of motivation. Follow-up studies would ideally rely on recruitment procedures that protect from such sampling and response biases.

Conclusion

In conclusion, our study confirmed our main hypotheses and showed that fashion models, compared to non-models, report lower need satisfaction, less psychological well-being, and less optimal personality adjustment. Even though a great deal of evidence shows that attractive people, compared to less attractive ones, are generally treated more favorably and are better adjusted (Langlois et al., 2000), these benefits of attractiveness did not extend to our groups of professional fashion models. Our tentative interpretation is that models, even though they have the advantage of attractiveness, might have fewer opportunities than many others to have their needs met on the job, because of various aspects of their occupational context. To the degree that these findings are reliable and replicable, they point to an important and hitherto neglected issue: fashion models, despite the glamorous façade of their profession, might be at elevated risk for impaired well-being and personality maladjustment. We think that these findings clearly justify further efforts to study the psychological well-being of fashion models and others working in similar professions. Positive psychology promises to have much to contribute to our understanding of and ability to improve well-being, and perhaps these insights ought to be applied more systematically to groups such as the ones we studied here. Our findings suggest that an obvious leverage point that might enable psychologists to enhance well-being concerns the satisfaction of basic psychological needs. If these suggestions are systematically pursued, we hope that ''happiness and need satisfaction on the catwalk'' will soon be more common than what currently appears to be the case.

Notes

1. It should also be noted that the studies documenting the various benefits of attractiveness did not focus on models, as such. Therefore, it is not entirely clear whether any potential beauty-related advantages shown in these studies generalize to fashion models.
2. Even though models differed slightly in age (and also in terms of income, such that models reported that they earned slightly more money than non-models), these demographic differences did not appear to systematically influence our findings with regard to happiness, well-being, need satisfaction, or personality adjustment in either of the two studies reported here. That is, when we controlled for these variables, all the main findings reported below remained essentially unchanged. For the sake of simplicity, the analyses with these covariates are not reported in detail; further information is available upon request from the first author.

References

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (text revision). Washington, DC: American Psychiatric Press.

Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology*, *34*, 2045–2068.

Bandelow, B. (2006). *Celebrities: Vom schwierigen Glück, berühmt zu sein*. [Celebrities: On the difficult happiness of being famous]. Reinbek: Rowohlt.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182.

Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review*, *97*, 19–35.

Deci, E. L., & Ryan, R. M. (2002). Self-determination research: Refection and future directions. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 431–441). Rochester, NY: The University of Rochester Press.

Deci, E. L., & Vansteenkiste, M. (2004). Self-determination theory and basic need satisfaction: Understanding human development in positive psychology. *Ricerche di Psichologia*, *27*, 17–34.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, *49*, 71–75.

Diener, E., Wolsic, B., & Fujita, F. (1995). Physical attractiveness and subjective well-being. *Journal of Personality and Social Psychology*, *69*, 120–129.

Feingold, A. (1992). Good-looking people are not what we think. *Psychological Bulletin*, *111*, 304–341.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1997). *Structured Clinical Interview for DSM-IV Personality Disorders, (SCID-II)* Washington, DC: American Psychiatric Press.

Gagné, M. (2003). The role of autonomy support and autonomy orientation in prosocial behaviour engagement. *Motivation and Emotion*, *27*, 199–223.

Gething, L. (2006, February 3). Pretty clever. *Manchester Evening News*, p. 3.

Goldberg, D. P., Gater, R., Sartorius, N., Üstün, T. B., Piccinelli, M., Gureje, O., et al. (1997). The validity of two versions of the GHQ in the WHO study of mental illness in general health care. *Psychological Medicine*, *27*, 191–197.

Goldberg, D. P., & Williams, P. (1988). *A user's guide to the General Health Questionnaire*. Windsor: NFER-Nelson.

Hosada, M., Stone-Romero, E. F., & Coats, G. (2003). The effects of physical attractiveness on job-related outcomes: A meta-analysis of experimental studies. *Personnel Psychology*, *56*, 431–462.

Ilardi, B. C., Leone, D., Kasser, R., & Ryan, R. M. (1993). Employee and supervisor ratings of motivation: Main effects and discrepancies associated with job satisfaction and adjustment in a factory setting. *Journal of Applied Social Psychology*, *23*, 1789–1805.

Jones, A., & Crandall, R. (1986). Validation of a short index of self-actualization. *Personality and Social Psychology Bulletin*, *12*, 63–73.

Kasser, V. G., & Ryan, R. M. (1999). The relation of psychological needs for autonomy and relatedness to vitality, well-being, and mortality in a nursing home. *Journal of Applied Social Psychology*, *29*, 935–954.

Langlois, J. H., Kalakanis, L., Rubenstein, A. J., Larson, A., Hallam, M., & Smoot, M. (2000). Maxims or myths of beauty? A meta-analytic and theoretical review. *Psychological Bulletin*, *126*, 390–423.

Lawrence, J. W., Carver, C. S., & Scheier, M. F. (2002). Velocity toward goal attainment in immediate experience as a determinant of affect. *Journal of Applied Social Psychology*, *32*, 788–802.

Lazarus, R. S. (2003). Does the positive psychology movement have legs? *Psychological Inquiry*, *14*, 93–109.

Livesley, W. J., & Jang, K. L. (2005). Differentiating normal, abnormal, and disordered Personality. *European Journal of Personality*, *19*, 257–268.

Lyubomirsky, S., & Lepper, H. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, *46*, 137–155.

Massoni, K. (2004). Modeling work: Occupational messages in *Seventeen* magazine. *Gender and Society*, *18*, 47–65.

Meyer, B. (2002). Personality and mood correlates of avoidant personality disorder. *Journal of Personality Disorders*, *16*, 174–188.

Meyer, B., Ajchenbrenner, M., & Bowles, D. P. (2005). Sensory sensitivity, attachment experiences, and rejection responses among adults with borderline and avoidant features. *Journal of Personality Disorders*, *19*, 641–658.

Meyer, B., & Carver, C. S. (2000). Negative childhood accounts, sensitivity, and pessimism: A study of avoidant personality disorder features in college students. *Journal of Personality Disorders*, *14*, 233–248.

Meyer, B., & Pilkonis, P. A. (2005). An attachment model of personality disorder. In J. F. Clarkin & M. F. Lenzenweger (Eds.), *Major theories of personality disorder* (2nd ed., pp. 231–281). New York: Guilford Press.

Meyer, B., Pilkonis, P. A., & Beevers, C. B. (2004). What's in a (neutral) face? Personality disorders, attachment styles, and the appraisal of ambiguous social cues. *Journal of Personality Disorders*, *18*, 320–336.

Meyer, B., Pilkonis, P. A., Proietti, J., Heape, C., & Egan, M. (2001). Attachment styles, personality disorders, and response to treatment. *Journal of Personality Disorders*, *15*, 371–389.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.

Reis, H. T., Sheldon, K. M., Gable, S. L., Roscoe, J., & Ryan, R. M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and Social Psychology Bulletin*, *26*, 419–435.

Ryan, R. M., & Deci, E. L. (2000). The darker and the brighter sides of human existence: Basic psychological needs as a unifying concept. *Psychological Inquiry*, *11*, 319–338.

Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3–33). Rochester, NY: The University of Rochester Press.

Seligman, M. E. P. (2002). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*. New York: Free Press.

Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, *60*, 410–421.

Sheldon, K. M., Elliot, A. J., Kim, Y., & Kasser, T. (2001). What is satisfying about satisfying events? Testing 10 candidate psychological needs. *Journal of Personality and Social Psychology*, *80*, 325–339.

Sheldon, K. M., Ryan, R. M., & Reis, H. T. (1996). What makes for a good day? Competence and autonomy in the day and in the person. *Personality and Social Psychology Bulletin*, *22*, 1270–1279.

Shevlin, M., & Adamson, G. (2005). Alternative factor models and factorial invariance of the GHQ-12: A large sample analysis using confirmatory factor analysis. *Psychological Assessment*, *17*, 231–236.

Skodol, A. E., Oldham, J. M., Bender, D. S., Dyck, I. R., Stout, R. L., Morey, L. C., et al. (2005). Dimensional representations of DSM-IV personality disorders: Relationships to functional impairment. *American Journal of Psychiatry*, *162*, 1919–1925.

Slater, A., Von der Schulennurg, C., Brown, E., Badenoch, M., Butterworth, G., Parsons, S., et al. (1998). Newborn infants prefer attractive faces. *Infant Behavior and Development*, *21*, 345–354.

Walker, A. (2005, September 25). Inside cocaine Kate's secret sordid world. *The People*, p. 30.