New Ideas in Psychology 29 (2011) 64–71

Contents lists available at ScienceDirect

New Ideas in Psychology

journal homepage: www.elsevier.com/locate/newideapsych

A general mechanism for linking personality traits to affect, motivation, and action☆

K.V. Petrides

Department of Psychology, University College London (UCL), 26 Bedford Way, London WC1H 0AP, UK

Keywords:
Belimp theory
Personality processes
Self-discrepancy
Self-efficacy
Expectancy-value
Confidence
Values

A B S T R A C T

This article describes a general mechanism for linking personality traits to affect, motivation, and action. It is hypothesized that personality traits confer a propensity to perceive convergences and divergences between our belief that we can attain certain goals and the importance that we place on these goals (*belief–importance* or *belimp* theory). Belief and importance are conceptualized as two coordinates, together defining the belimp plane. Four distinct quadrants can be identified within the belimp plane (Hubris, Motivation, Depression, and Apathy), broadly corresponding to the personality dimensions of trait emotional intelligence, conscientiousness, neuroticism, and introversion. Strategies and requirements for testing belimp theory are presented as are a number of important theoretical and practical advantages that it can potentially offer.

Personality psychology is at the epicenter of the social sciences. Some of the most influential psychologists of all time have worked within it and its breakthroughs have informed every aspect of applied psychology from industrial-organizational through to educational, clinical, and forensic. New theories continue to emerge in the field, often tested using paradigms from allied disciplines (e.g., behavioral genetics; Vernon, Petrides, Bratko, & Schemer, 2008). Within personality psychology, the dominant paradigm, in terms of validity, replicability, and practical utility, is the trait paradigm. As any other paradigm, however, this has a number of limitations that have not yet been fully addressed. Two such concern the fact that its explanations tend to be circular (Bandura, 1997) and that insufficient attention is paid to situational factors (Mischel, 1968). The former problem is uncomfortably prominent in a literature that is replete with thesaurus-driven statements of the type "conscientious employees perform better on the job because they are more thorough, reliable, and diligent". Explanations of this kind are prime examples of what Skinner (1953) termed 'explanatory fictions'.

The temptation to rely on thesaurus-driven accounts stems from the combined restrictions imposed by the adjectival nature of the field's taxonomies and the lack of empirically validated mechanisms that can help transcend our over-reliance on synonyms. Such mechanisms have traditionally been in short supply in trait psychology (Harlow & Cantor, 1994), so this paper seeks to make an important contribution by describing a mechanism through which personality traits may exert their effects on behavior.

1. Basic premises of *bel*ief–*imp*ortance (belimp) theory

Genetic and biological factors, along with environment influences (primarily non-shared), begin to shape personality from early on in life (Caspi, Moffitt, Newman, & Silva, 1996; Plomin, 1990). Soon after they have formed, belimp theory posits that personality traits confer on the individual a propensity to perceive convergences and divergences between their *belief* that they can attain goals and

☆ This paper is dedicated to Arthur R. Jensen.

E-mail address: k.petrides@ucl.ac.uk

0732-118X/$ – see front matter © 2010 Elsevier Ltd. All rights reserved.
doi:10.1016/j.newideapsych.2010.02.001

the *importance* that they place on these goals. Belief and importance are conceptualized as two coordinates, together defining the *belimp plane* (see Fig. 1 and 'belimp plane' subheading anon). Although they are depicted as orthogonal, in practice, the two coordinates will often be correlated. This is because people tend to invest in goals that they value more and goal investment, in turn, increases self-belief (Bandura, 1997).

Belimp theory hypothesizes that aspects of, mainly, conscientiousness and introversion confer a tendency to move *towards* the belimp *axis of symmetry* (see Fig. 1), while aspects of, mainly, neuroticism and trait emotional intelligence (trait EI; Petrides, Pita, & Kokkinaki, 2007) confer a tendency to move *away* from the axis. Divergence from the axis creates residuals that can be either *positive* (belief > importance) or *negative* (belief < importance). It is postulated, then, that personality traits determine both the individual's location on the axis of symmetry (high or low) and the direction of the residuals (positive or negative).

The two belimp coordinates are individually as well as jointly exposed to the effects of personality traits. Despite pronounced differences in value hierarchies, we believe that certain traits (e.g., aspects of conscientiousness) predispose people towards taking life more seriously, thus placing relatively high importance on multiple *life domains* (attractiveness, family, security, work, etc.; see 'life domains' subheading anon). Contrary to the view that confidence is essentially task-dependent (Bandura, 1997), we, in fact, believe that certain personality traits (e.g., aspects of trait EI) predispose people towards being generally confident. This is exemplified by the tendency of high trait EI individuals to always score higher than their low trait EI peers on socially desirable variables measured via self-report (see Petrides, Pérez-González, & Furnham, 2007).

2. Explanation of the belimp plane: implications for affect, motivation, and action

Four quadrants are conceptualized within the belimp plane and, for heuristic purposes, labeled in terms of affect and motivation (see Fig. 1). Clockwise from top left, we have the quadrants of Hubris, Motivation, Depression, and Apathy, loosely corresponding to the personality dimensions of trait EI, conscientiousness, neuroticism, and introversion. The Hubris quadrant also suggests unconventionality (because it is unusual to be uninterested in major life domains, even when you believe you can excel in them), the Motivation quadrant suggests conventionality (because we are socialized to achieve in major life domains), the Depression quadrant suggests humility (because it requires modesty to admit low confidence in life domains that you accept as important), and the Apathy quadrant suggests detachment (because it requires

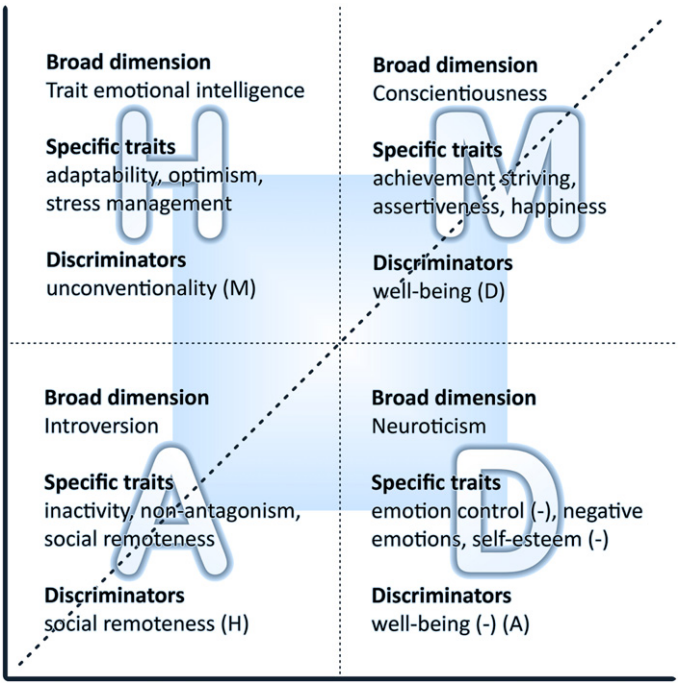

Fig. 1. The figure presents the four belimp quadrants (*H*ubris, *M*otivation, *D*epression, and *A*pathy), along with the personality dimensions and specific traits that may underpin them. Belief is depicted on the *y* axis (ordinate) and importance is depicted on the *x* axis (abscissa). Because dimensions and traits will often cut across quadrants, we present, for each quadrant, a discriminating trait that helps distinguish it from adjacent quadrants. Discriminating traits are different from the key traits underpinning each quadrant and their function is to distinguish a quadrant from the adjacent quadrant specified in the parenthesis. For example, well-being should specifically discriminate between the Motivation and Depression quadrants, but it should not be thought of as a key underlying characteristic of the former because other quadrants (in this case, Hubris) may be even more closely associated with well-being than it is. Also depicted are the axis of symmetry (see diagonal line), which divides the figure into two parts, such that when one part is folded over along the axis it coincides with the other part, as well as the inner and outer belimp plane regions (shaded and unshaded, respectively).

disinterest to have low confidence and be indifferent to major life domains). The labels are heuristic and intend to highlight connections between belimp processes and established dimensions of personality. These connections relate to specific facets of the dimensions, and not necessarily their global scores, which often represent an amalgamation of rather disparate constructs.

Two notes of caution are in order; first, the trait descriptors in Fig. 1 (broad dimensions, specific traits, and discriminators) concern hypotheses about the personality profiles of individuals whom we might expect to encounter in each quadrant, according to belimp theory. Yet this is not necessarily how observers will perceive those individuals or how they will actually behave. In other words, there may well be disagreements between self-perceptions, other-perceptions, and behavioral or physiological indices, as in Weinberger, Schwartz, and Davidson (1979). These disagreements may be more frequent or marked in some quadrants than others and Hubris is a particularly relevant quadrant in this respect, given the expectation that participants who are classified into it will tend to exaggerate their adaptation levels. Second, judgments about the potential adaptive value of a quadrant predicated solely on the trait descriptors in Fig. 1 are conjectural and should be recognized as such. The overarching point is that there may be disagreements between perceived and behavioral indices of adaptation (as indeed implied by the first quadrant's Hubris label) or contexts where seemingly adaptive traits may well have maladaptive consequences and vice versa (see, for example, Sevdalis, Petrides, & Harvey, 2007).

A belimp quadrant assumes *focal status* when it becomes the most theoretically relevant in a particular analysis. When the criterion concerns self-confidence, the focal quadrant is Hubris, when it concerns achievement, the focal quadrant is Motivation, when it concerns indifference, the focal quadrant is Apathy, and when it concerns negative affect, the focal quadrant is Depression.

Two different types of belimp plane can be identified: the *conditional* belimp plane, of which there are many, and the *master* belimp plane, of which there is only one. The former are planes specified in relation to a particular life domain and, therefore, conditional upon it. The latter is a hypothetical plane arising from averaging conditional planes over multiple life domains. An individual's position in the master belimp plane represents their *typical* belimp position. For example, when one is asked to consider the life domain of financial security, that is, to rate a) how confident they are they can attain financial security and b) how important it is to them that they do so, a belimp plane conditional on the life domain of financial security materializes. It is possible to obtain such ratings on a number of life domains (attractiveness, family, job performance, etc.) in order to establish positions on a corresponding number of conditional planes. Subsequently, averaging over the various conditional planes would allow us to determine the individual's typical position on the master belimp plane (see also Fig. 2).

Conditional belimp planes can be either *concordant* or *discordant* in relation to the master belimp plane and, more implicatively, in relation to a criterion. The degree of concordance between a conditional plane and the master plane is an empirical question, largely depending on the individual's value hierarchy. It is worth noting that the belimp hypothesis that highly conscientious individuals are predisposed to place high importance on multiple life domains does not mean that such individuals will necessarily value highly every major domain in life. There may well be conditional planes based on specific life domains, which a particular conscientious individual may simply not value. Such planes will be discordant in relation to the master plane wherein the individual has their typical position.

The degree of concordance between a conditional plane and a particular criterion can be estimated conceptually. For example, it can be argued that we have concordance if the criterion of job performance is paired with the life domain of work and discordance if it is paired with the life domain of family. Concordant planes are especially consequential for action because they carry information both about the individual as well as about the relevant context and are thus expected to be strong predictors of behavior.

3. Mapping personality dimensions onto belimp quadrants

Belimp quadrants cannot be mapped injectively onto broad-bandwidth personality dimensions because the latter often lack the necessary psychological coherence. In the quest for comprehensiveness, personality dimensions have been expanded voraciously to incorporate heterogeneous concepts (e.g., sociability, activity, and impulsivity within Extraversion; depression, hostility, and self-consciousness within Neuroticism). What is more, their strictly empirical construction (Block, 1995) probably rules out the discovery of explicit processes underpinning the entire spectra of these dimensions.

Mapping efforts are further complicated by the fact that the constituent components of personality dimensions often vary between and, occasionally, even within instruments (De Raad & Perugini, 2002). For example, an Extraversion measure without a salient activity component (Jackson, Paunonen, & Tremblay, 2000) will be unlikely to show links with the Apathy quadrant. So it is important to confirm, and remain conscious of, which facets specifically are driving the associations between the quadrants and the dimensions in order to ensure that they (viz., the facets) are well represented in the instruments we use to assess personality in belimp studies.

Since the mapping between belimp quadrants and personality dimensions is non-injective, no single dimension can be conceived of as the preserve of any one quadrant. This is important to remember, especially when taking the ANOVA approach to testing the theory (see 'testing' subheading anon). We must avoid hypothesizing that scores on, say, conscientiousness-related variables will be significantly higher in the Motivation quadrant than in the other three quadrants, since aspects of conscientiousness may well be implicated in all four quadrants. Nevertheless, we would expect that, over a number of randomly drawn life domains, pooled conscientiousness scores in the Motivation quadrant will be at least numerically higher than in the other quadrants.

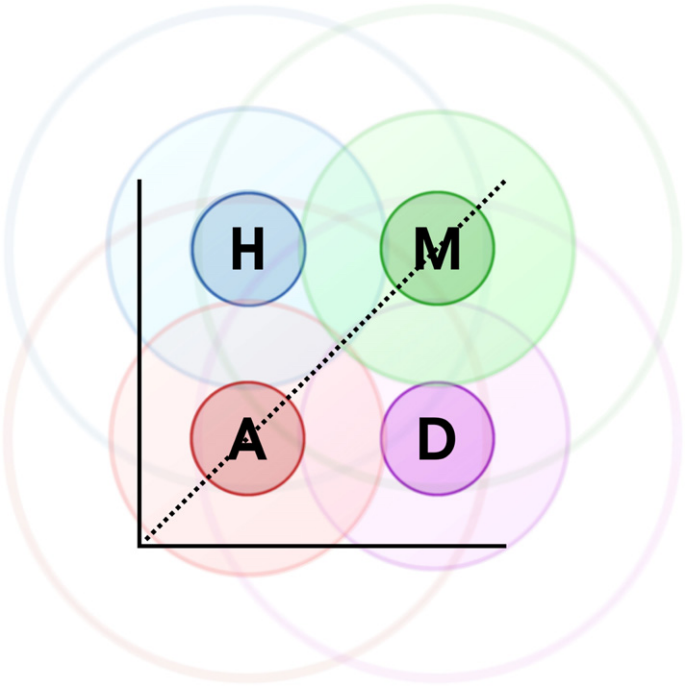

Fig. 2. This figure illustrates the relationship between the master belimp plane and conditional belimp planes. An individual can occupy only one position in any of the four quadrants of the master plane (their *typical* belimp position) as determined by their dominant personality traits. In conditional planes, the effects of traits will be moderated by the life domain and by other unspecified factors, which together can shift the individual away from their typical position into any of the other quadrants (quadrant migration). This process is illustrated by the concentric circles around the four letters. Each letter represents a different individual's typical belimp position, with the circles denoting the range of positions the individual could occupy in conditional belimp planes. Different life domains will cause different shifts to the typical position and positions in the outer regions of the master plane will be generally less susceptible to shifting than positions in the inner regions.

3.1. Dominant personality traits

Concepts at the level of the population do not necessarily apply at the level of the individual (Revelle, 1995) and, therefore, it is unlikely that every individual possesses all of the personality traits that are thought to be basic (be they three, five, or more). Furthermore, not all traits in an individual are necessarily equally important or influential (Allport, 1937). Belimp theory recognizes and is compatible with these facts. While it is concerned with several personality dimensions, especially trait EI, conscientiousness, neuroticism, and introversion (but also psychoticism, agreeableness, and openness-to-experience), it permits only a single position for each individual within the master plane.

Central in belimp theory is the hypothesis that a person's position in a conditional plane will be a function of their personality, the life domain under consideration, and other, undetermined, factors of probably minor influence. Averaging over multiple conditional planes will cause all effects to cancel out, except those of the dominant personality traits that are expected to act as determinants of the individual's typical position in the master plane (from which positions in conditional planes will deviate to various extents).

Due to the hypothesized role of personality traits in determining conditional plane positions, we predict that the classification of individuals into belimp quadrants, particularly their *outer regions*, will show statistically significant evidence of stability. As shown in Fig. 1, the outer regions are defined by selecting extreme-scoring participants and excluding those with scores close to the mean. The fact that both personality and life domains will affect positions in conditional planes means that the theory is able to allow for a simultaneous consideration of traits and contexts. A corollary of this advantage is *quadrant migration*, whereby someone is classified away from their typical quadrant as a part function of the life domain (see Fig. 2), with the effects of personality acting as stabilizers across classifications.

Belimp theory is asymptotic, meaning it requires not only large sample sizes, but also aggregation over several life domains. In order to attain stable classification estimates, the universe of life domains ought to be sampled adequately. An individual's typical position can only be determined after repeated measurements have cancelled out all non-systematic influences on the two coordinates (values, personal histories, measurement error, etc.).

4. Notes on the nature and consequences of life domains

Life domains can be construed as intelligible regions of life experience (Campbell, Converse, & Rodgers, 1976). Because life domains are partial mediators or moderators of personality traits, a life domain taxonomy, along the lines

proposed by Cummins (1996), would help predict with greater precision positions in conditional planes. However, such a taxonomy would also have to map life domains onto meaningful dimensions, so that their differences may be quantified (competitive versus cooperative, individualistic versus collectivist, etc.).

In belimp theory, life domains must be relatively broad. Such stability as belimp classifications may exhibit will be the result of cross-contextual consistency in the effects of personality traits. Consequently, it is necessary that life domains be sufficiently general to allow mental aggregation over multiple narrow facets, each of which will be far less susceptible to the influence of personality than the domain as a whole. For example, personality is a stronger predictor of overall work performance than of performance on specific job tasks that is affected by a multitude of variables and random factors (Motowidlo & Van Scotter, 1994). Belimp theory, then, is aligned to the trait self-efficacy perspective on confidence (Petrides, Pita, et al., 2007) and fundamentally different from Bandurian self-efficacy (Bandura, 1997), which concerns highly specific tasks that may or may not be psychologically important.

Life domains must also be conducive to the elicitation of individual differences in belief and importance. Restrictive domains that constrain individual differences and lead to leptokurtic distributions with reduced variance in either coordinate are less suitable for testing the theory. Variance restriction may also result from the use of homogeneous samples, whose members share common goals and perspectives (adherents of a religion, patients, voters of a particular persuasion, etc.).

Last, it needs little elaboration that life domains should be potentially appealing and within the individual's control. It is not sensible to use domains focusing on failure ("It is important to me to be poor"), not least because ratings on the belief coordinate would then be paradoxical ("I really believe I can be poor"). Domains that are far removed from the individual's personal sphere of influence ("It is important to me to live in an ethical society") may also be problematic for the belief coordinate ("I really believe I can live in an ethical society").

5. Strategies for testing belimp theory

Three complementary statistical procedures can be used to test belimp theory. The first entails one-way ANOVAs, followed by post-hoc tests. This approach has advantages, including simplicity and comparatively lower sample size requirements. Four groups can be derived from a 2×2 table combining high and low scores on the two coordinates of belief and importance. For an analysis of the whole belimp plane, the classification can be done based on mean or median splits (median values will often be higher due to likely negative skeweness). For an analysis of the outer regions, a type of partile- or SD-based classification is possible. In practice, the process will vary across studies as a function of the distributions of the belimp coordinates (with complications potentially arising from leptokurtosis). Splits based on theoretical means should be avoided because they could be severely misaligned in relation to the empirical means. In due course, it may be desirable to develop standardized belimp instruments to aid the classification process.

The second procedure for testing belimp theory is moderated multiple regression (MMR) with belief, importance, and their multiplicative interaction as the regressors. This complements the ANOVA approach by shedding more light on how belimp positions relate to the dependent variables. It is not recommended as the sole testing approach due to its heavier demands on sample size.

The third approach to testing belimp theory is via latent variable modeling (LVM). This takes into account measurement error in the variables, although it requires still larger sample sizes than MMR. It cannot be handled by conventional LV models due to the non-linearity of the interaction terms and requires instead the use of numerical integration methods (Klein & Moosbrugger, 2000; Muthén & Asparouhov, 2003).

All three data analytic procedures can be applied to both whole plane and outer region data. Clearer results are expected in the latter case because outer regions ought to be less affected by quadrant migration. The three approaches vary in their focus and should be thought of as complementary (the main contrast being between the group differences approach of the ANOVA and the interaction approach of MMR and LVM). The order of the four groups in the ANOVA and the sign of the interaction terms in the other two approaches are of interest, irrespective of their statistical significance. The expectation is that the focal quadrant will emerge with the highest (or lowest) score and that the sign of the interaction will be in the hypothesized direction. Thus, the order of the group means in the ANOVA and the signs of the interaction terms in the MMR and LVM approaches carry empirical weight and can be interpreted over and above any statistically significant results. Applications of these testing strategies in the evaluation of numerous hypotheses stemming from belimp theory can be found in Petrides (in press-a, in press-b).

6. Requirements for testing belimp theory

Several conditions must be met to ensure the validity of empirical tests of belimp theory. To the extent that these conditions are not met, the resultant tests will be inconclusive.

As already noted, belimp theory is asymptotic. In testing it, large sample sizes are imperative. Although it is just a rule of thumb, a minimum of 30 participants are recommended in the smallest ANOVA cell in order to ensure that the central limit theorem is applicable. It may be necessary to employ oversampling methodologies to achieve adequate representation in all quadrants. Related considerations regarding the distributional properties of the belimp coordinates, which tend to be negatively skewed, are of special importance to the MMR and LVM approaches because they will influence their ability to uncover significant effects.

Multiple life domains should ideally be tested as part of each study, so as to increase the reliability with which an individual's typical position in the master belimp plane is determined. It is unknown if there is an optimal number of domains to test or if there are appropriate and

inappropriate presentation strategies (in dedicated instruments or as part of larger surveys, sequentially or alternately, etc.).

With respect to operationalizing the belief and importance coordinates, the critical requirement is for high internal consistencies (minimum .80). Measurement scales must be internally reliable, though not necessarily comprehensive, since the emphasis is on convergences and divergences, rather than on construct validation. To meet the recommendation for assessing multiple life domains in each study, it is desirable to restrict the length of the assessments. All things considered, a reasonable number of items per coordinate may be five, although longer scales are seldom undesirable. The requirement for high internal consistencies applies equally to the various dependent variables used to test the theory and Cronbach alphas from the pertinent samples must be reported wherever possible.

Further requirements or recommendations may become necessary as belimp theory comes under empirical scrutiny. Obviously, it will be difficult for any one study to satisfy all of the conditions or follow all of the recommendations, which should not become a deterrent to empirical testing. Realistic approaches can be adopted, balancing the testing requirements against practical considerations, with results evaluated in the light of design limitations and over a number of independent studies (see, e.g., Petrides in press-a, in press-b).

7. Links with related theories

A number of theories have proposed concepts that bear affinity to belimp theory and these must now be discussed. Belimp theory involves convergences and divergences between beliefs and importance and, as such, it is related to self-discrepancy theory (Higgins, 1987). The latter centers on negative discrepancies arising from comparisons between a number of possible selves (actual, ideal, ought, etc.; see also Markus & Nurius, 1986). However, belimp theory is more general, since it accommodates both positive and negative divergences as well as high and low convergences along the axis of symmetry, all of which have implications for affect, motivation, and action.

The Motivation quadrant in the belimp plane echoes a class of incentive motivation models collectively known as expectancy-value (EV) theories (e.g., Ajzen, 1991; Georgopoulos, Mahoney, & Jones, 1957; Lewin, 1935; Rotter, 1966; Vroom, 1964). These models posit that motivation is the result of an additive or multiplicative combination of the expectation that certain actions will lead to certain outcomes (expectancy) and the desirability of these outcomes (value). Belimp theory is more general, addressing key concepts in addition to motivation (particularly affect), but perhaps also more parsimonious, since it relies only on the two coordinates of belief and importance. In contrast, EV theories are multi-variable theories involving several complex, albeit significant, constructs (e.g., intention in Ajzen, locus of control in Rotter, and instrumentality in Vroom).

We accept that these theories have different aims, antecedents, and consequences from belimp theory and are, thus, not directly comparable to it (or indeed between them). While the belief and importance coordinates can be roughly aligned to, respectively, the concepts of expectancy and value, they are certainly not interchangeable with them. The belief coordinate concerns, in effect, confidence that success can be achieved in a particular life domain, which is qualitatively different from the expectation that certain actions will lead to certain outcomes. Importance, in a sense, represents a truncation of the concept of value in EV theories, necessitated by the fact that belimp planes, in contrast to EV formulae, cannot accommodate negative values to indicate goal aversion (in belimp theory, goal aversion can be handled by adjusting the rubric: "It is important to me to avoid being alone in life" – "I really believe I can avoid being alone in life").

More broadly, aspects of belimp theory also intersect Bandura's (1997) self-efficacy theory and Locke's (1969) range-of-affect theory. Self-efficacy differs from the belimp coordinate of belief in that it is task-specific, rather than general, and concerns confidence in performing specific actions, rather than confidence in achieving broad goals. While self-efficacy is fully contextualized, the belief dimension is only partially contextualized in conditional belimp planes (concerning, as it does, life domains) and fully decontextualized in the master belimp plane.

Locke's (1969) range-of-affect theory hypothesizes that emotional responses reflect a dual value judgment, involving, on the one hand, the discrepancy between what one wants and what one perceives as getting and, on the other, the importance one places on this discrepancy. A greater range-of-affect is experienced when discrepancies are perceived as important (greater satisfaction if they are small and greater dissatisfaction if they are large). In contrast to belimp theory, then, which accounts for motivation and action in addition to affect, discrepancies in range-of-affect theory are not determined empirically, but by means of direct subjective evaluation.

Piaget (1981) was, of course, also interested in explanatory mechanisms and proposed some such linking affect and cognition. Of interest here is the distinction, discussed in his third stage of affective development, between synchronic (momentary) and diachronic (over a period of time) affectivity and, more specifically, the suggestion that the latter type influences people's perceptions and values (Sokol & Hammond, 2009). This accords with the belimp hypothesis that personality has a bearing both on people's perceived confidence to achieve success in major life domains and on the importance that they place on such success.

The foregoing theories were cited mainly because they incorporate ideas that are seemingly or actually related to belimp concepts. Belimp theory does not seek to supplant any one of those theories, let alone all of them collectively. Its empirical content and terms are simply too different to allow direct comparisons as can be performed between closely related theories (e.g., Chang, 1998).

8. Potential contributions and applications of belimp theory

Provided belimp theory receives empirical support (see Petrides, in press-a, in press-b for initial results), it can

make multifaceted theoretical and practical contributions. Regarding theory generation, it will be possible to complement synonym-driven descriptions of the effects of personality traits on behavior with process-focused explanations. Via the hypothesis that they confer a propensity to perceive convergences or divergences between what people believe they can attain and what they value as important, belimp theory grants a functional role to personality traits. More generally, it offers the promise of at least some common ground between personality theories that focus on traits and those that focus on processes.

By linking traits to processes within a model wherein personality consistency and flow can coexist (as the master and conditional belimp planes, respectively), belimp theory can relieve the uneasy cohabitation of the trait and social–cognitive approaches to personality. From the point of view of trait theory, we have a mechanism that, unlike traits, which are identified at an aggregate (population) level, is identified and can be applied at the level of the individual. Such mechanisms can help substantiate the reality of personality traits by bestowing explanatory power on them.

Belimp theory should yield significant efficiencies and perhaps also improvements in our ability to predict action (behavior) over existing personality inventories. We expect this, first, because the belimp mechanism is a more proximal determinant of behavior than personality (as illustrated in Fig. 3) and, second, because position in a concordant belimp plane will reflect both one's personality traits as well as their attitudes towards a context (life domain), thus carrying more information than either personality or context alone.

The predictive power of belimp theory in relation to a particular criterion will be progressively enhanced as life domains become more concordant, and maximized when the life domain matches the criterion (e.g., work as the life domain with job performance as the criterion). Personality is a distal determinant of behavior and the mechanisms through which it affects it are largely unknown. If such mechanisms were to be successfully isolated, they should prove significant mediators or moderators (Baron & Kenny, 1986) of personality traits. In fact, because concordant belimp planes are hypothesized as more proximal and partially contextualized determinants of behavior, there may be cases where they emerge as full mediators and perhaps even as incremental predictors.

Another advantage of belimp theory concerns the possibility of using it as a guide to developing behavior modification programs. Some view personality traits as deterministic due to their high temporal stabilities, particularly after 30 (Terracciano, McCrae, & Costa, 2006), and the underwhelming efficacy of interventions designed to change them (Costa & McCrae, 1986). Interventions targeting the belimp mechanism could moderate the effects of personality traits without necessarily trying to change standing on the traits themselves. For example, it has been demonstrated empirically that education and targeted interventions can help change value systems and attitudes (Chatard & Selimbegović, 2007; Wood, 2000), changes that can potentially shift one's position in conditional belimp planes and, eventually, perhaps even in the master plane itself.

Belimp theory can provide the theoretical basis for at least two distinct behavior modification strategies. Individuals can be helped to migrate quadrants by manipulating their standing on one or both coordinates. Technically, this translates to positive residual maximization for enhancing well-being, and movement towards the high end of the axis of symmetry for enhancing motivation. In contrast, negative residual maximization can increase humility, and movement towards the low end of the axis of symmetry can increase detachment.

Behavior modification may also be achieved by shifting the person's attention towards conditional belimp planes wherein they already hold the desired position. Thus, a lethargic person can be prompted to refocus on planes in

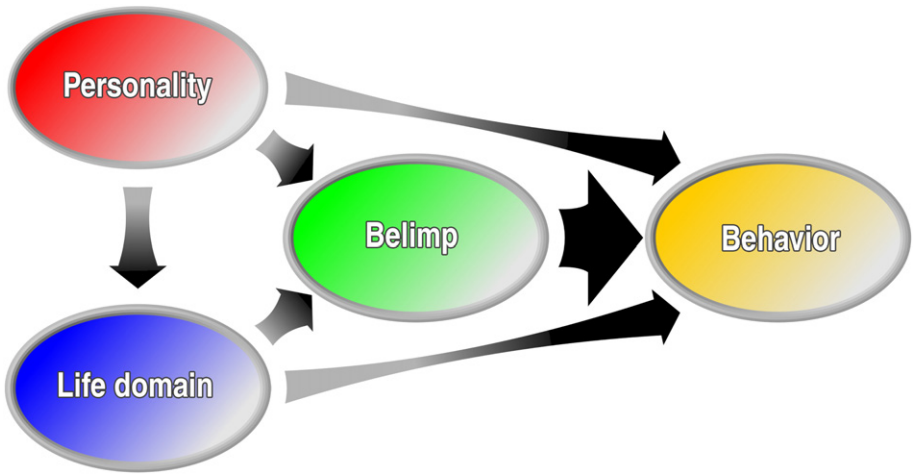

Fig. 3. The full model depicts the antecedents and action consequences of the belimp process for a behaviorally concordant plane. The path from personality into life domain indicates that traits exert influence on which life domains we find important and on how confident we are that we can achieve success in these domains. Personality and life domain both have a direct bearing on behavior. In addition, along with other (unknown or unsystematic) factors, they determine a person's position on the belimp coordinates, which we believe will prove strong predictors of behavior.

which they fall in the Motivation quadrant, while a conceited person can be prompted to refocus on conditional planes in which they fall in the Depression quadrant. By differentially weighting conditional planes through redirecting attention, it may be possible to modify one's position in the master belimp plane, which reflects his or her general outlook on life. Overall, the generality, flexibility, and simplicity of the theory could render it a useful framework for the eclectic application of a range of non-pharmacological therapies.

Moss and Wilson (2010) claimed that psychological theories are poorly integrated and sometimes even yield incompatible implications. They also observed that many empirical findings supporting such theories are rather intuitive. The aim of belimp theory is to identify a specific process whereby personality traits exert their effects on behavior. As such, the theory cannot directly address meta-theoretical concerns, like the twin claims made by Moss and Wilson. Nevertheless, in relation to the issue of intuitiveness, it must be noted that several belimp hypotheses are anything but trivial or banal (e.g., that introverted-asocial individuals will tend to have low confidence and low interest in most major life domains or that neurotic individuals will tend to have low confidence, but high interest in most major life domains).

Extensions, amendments, and adjustments to belimp theory are fully expected, given the purely theoretical nature of this article. Further work will be required to refine and, quite likely, amend aspects of the theory, but it is important that this work be firmly rooted in empirical research (see Petrides, in press-a, in press-b). Should belimp theory, or a version thereof, survive rigorous empirical testing, we will have at our disposal a general mechanism for linking personality traits to affect, motivation, and action.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*, 179–211.

Allport, G. W. (1937). *Personality: A psychological interpretation*. New York: Holt.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

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.

Block, J. (1995). A contrarian view of the five-factor approach to personality description. *Psychological Bulletin, 117*, 187–215.

Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). *The quality of American life. Perceptions, evaluations, and satisfactions*. New York: Russel Sage Foundation.

Caspi, A., Moffitt, T. E., Newman, D. L., & Silva, P. A. (1996). Behavioral observations at age 3 years predict adult psychiatric disorders. *Archives of General Psychiatry, 53*, 1033–1039.

Chang, M. K. (1998). Predicting unethical behavior: a comparison of the theory of reasoned action on the theory of planned behavior. *Journal of Business Ethics, 17*, 1825–1834.

Chatard, A., & Selimbegović, L. (2007). The impact of higher education on egalitarian attitudes and values: contextual and cultural determinants. *Social and Personality Psychology Compass, 1*, 541–556.

Costa, P. T., Jr., & McCrae, R. R. (1986). Personality stability and its implications for clinical psychology. *Clinical Psychology Review, 6*, 407–423.

Cummins, R. A. (1996). The domains of life satisfaction: an attempt to order chaos. *Social Indicators Research, 38*, 303–332.

De Raad, B., & Perugini, M. (2002). *Big five assessment*. Gottingen: Hogrefe & Huber.

Georgopoulos, B. S., Mahoney, G. M., & Jones, N. W., Jr. (1957). A path-goal approach to productivity. *Journal of Applied Psychology, 41*, 345–353.

Harlow, R. E., & Cantor, N. (1994). A functionalist agenda for trait psychology. *Psychological Inquiry, 5*, 130–134.

Higgins, E. T. (1987). Self-discrepancy: a theory relating self and affect. *Psychological Review, 94*, 319–340.

Jackson, D. N., Paunonen, S. V., & Tremblay, P. F. (2000). *SFPQ six factor personality questionnaire manual*. Port Huron, MI: Sigma Assessment Systems.

Klein, A., & Moosbrugger, H. (2000). Maximum likelihood estimation of latent interaction effects with the LMS method. *Psychometrika, 65*, 457–474.

Lewin, K. (1935). *A dynamic theory of personality: Selected papers*. New York: McGraw-Hill.

Locke, E. A. (1969). What is job satisfaction? *Organizational Behavior and Human Performance, 4*, 309–336.

Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist, 41*, 954–969.

Mischel, W. (1968). *Personality and assessment*. New York: Wiley.

Moss, S. A., & Wilson, S. (2010). Integrating the most unintuitive empirical observations of 2007 in the domain of personality and social psychology into a unified framework. *New Ideas in Psychology, 28*, 1–27.

Motowidlo, S., & Van Scotter, J. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology, 79*, 475–480.

Muthén, B., & Asparouhov, T. (2003). Modeling interactions between latent and observed continuous variables using maximum-likelihood estimation in Mplus. *Mplus Web Notes, 6*.

Petrides, K. V. An application of belief-importance theory with reference to the Big Five. *Social Behavior and Personality*, in press-a.

Petrides, K. V. An application of belief-importance theory with reference to trait emotional intelligence, mood, and somatic complaints. *Scandinavian Journal of Psychology*, in press-b.

Petrides, K. V., Pérez-González, J.-C., & Furnham, A. (2007). On the criterion and incremental validity of trait emotional intelligence. *Cognition and Emotion, 21*, 26–55.

Petrides, K. V., Pita, R., & Kokkinaki, F. (2007). The location of trait emotional intelligence in personality factor space. *British Journal of Psychology, 98*, 273–289.

Piaget, J. (1981). *Intelligence and affectivity*. Palo Alto, CA: Annual Review Inc.

Plomin, R. (1990). The role of inheritance in behavior. *Science, 4952*, 183–188.

Revelle, W. (1995). Personality processes. *Annual Review of Psychology, 46*, 295–328.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80*, 1–28.

Sevdalis, N., Petrides, K. V., & Harvey, N. (2007). Trait emotional intelligence and decision-related emotions. *Personality and Individual Differences, 42*, 1347–1358.

Skinner, B. F. (1953). *Science and human behavior*. New York: Macmillan.

Sokol, B., & Hammond, S. (2009). Piaget and affectivity. In U. Müller, J. Carpendale, & L. Smith (Eds.), *Cambridge companion to Piaget*. New York: Cambridge University Press.

Terracciano, A., McCrae, R. R., & Costa, P. T., Jr. (2006). Personality plasticity after age 30. *Personality Social Psychology Bulletin, 32*, 999–1099.

Vernon, P. A., Petrides, K. V., Bratko, D., & Schemer, J. A. (2008). A behavioral genetic study of trait emotional intelligence. *Emotion, 8*, 635–642.

Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.

Weinberger, D. A., Schwartz, G. E., & Davidson, R. J. (1979). Low anxious, high-anxious, and repressive coping styles: psychometric patterns and behavioural and physiological responses to stress. *Journal of Abnormal Psychology, 88*, 369–380.

Wood, W. (2000). Attitude change: persuasion and social influence. *Annual Review of Psychology, 50*, 539–570.