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Personality and motivational predictors of well-being and coping during COVID-19: A reversal theory analysis

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A R T I C L E   I N F O

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A B S T R A C T

This study used reversal theory to examine motivational predictors of well-being and coping during the COVID-19 pandemic in 2020. 149 UK based respondents completed an online survey including measures of demographics, well-being, coping, motivational style, and dominance. Well-being was predicted by optimism (positively), autic and mastery (negatively) dominances, by alloic sympathy, optimism and paratelic motivation styles (positively), and, negatively by arousal seeking, arousability and pessimism. Coping was positively predicted by optimism and negativism dominances and by negativist, paratelic and telic motivations, and, negatively by arousability and pessimism. Using motivational dominances, indirect support was identified for the link between psychodiversity and well-being, but not coping. Findings suggest that well-being and, to a lesser degree, coping could be enhanced by encouraging individuals to experience a range of motivations, possibly focusing on those identified here as significant predictors. Future research needs to determine the context specificity of these findings and explore psychodiversity, well-being and coping using both metamotivational states and composite profiles incorporating the full range of motivational constructs.

1. Introduction

The global pandemic caused by COVID-19 in March 2020 has currently (September 2020) resulted in 25.8 million cases and 859,000 deaths, having changed and continuing to change people’s lives. In the UK, people are experiencing months of national or local lockdown; at times being only permitted to leave their homes to meet essential needs. Thousands of people have lost their jobs and the gap between rich and poor has widened. School and workplace closures meant that children have been home-schooled by parents, and employees who can, have worked at home (e.g., see Hiscott et al., 2020).

Inevitably, people have experienced fear, loss, physical illness, anxiety, depression, stress, living with uncertainty, and loneliness, potentially with long-term consequences (Dubey et al., 2020; Qiu et al., 2020). Whilst the devastating impact of COVID-19 cannot be downplayed, there are benefits. For example, reduced global air pollution (Zambrano-Monserrate et al., 2020), communities supporting the vulnerable, and home-working enabling more time with family, and less work-related stress.

Not all individuals will respond in the same way to the same stressor (e.g., Lazarus & Folkman, 1984) and theories of personality suggest that individual difference factors can help explain this. There is ample evidence that personality is related to both well-being and coping (e.g., Carver & Connor-Smith, 2010; Diener et al., 2003; Lucas, 2018) although insufficient scope to discuss this in detail here. Of note, however, Lucas (2018) highlights that individual differences are the most consistent and strongest predictor of subjective well-being, but this research has mainly focused on the Big Five Personality Dimensions (Costa Jr. & McCrae, 1992), predominantly extraversion and neuroticism. In addition, further evidence identifies that personality is related to different responses to acute laboratory-induced stress, societal transition (Van den Berg & Pitarui, 2005; Xin et al., 2017), and is related to differences in coping approaches during incarceration (Leszko et al., 2020).

Given the potential stressful impact of COVID-19, enhancing our understanding of people’s well-being and coping in this context is...
important. Whilst research has explored these relationships previously, in this study we did so using reversal theory (Apter, 2001). As discussed below, personality characteristics described in reversal theory explain a range of health-related factors but this does not yet include well-being or resilience coping, on which this study focused.

1.1. Theoretical framework

Reversal theory (Apter, 2001) proposes metamotivational states (Apter et al., 1998) that are structured into bipolar opposite pairs and each pair has a specific underlying focus. The telic-paratelic pair is concerned with means and ends; in the telic state we prefer serious, goal-oriented activities with important consequences. In the paratelic state, we prefer playful activities with no long-term consequences and focus on the current moment. The mastery-sympathy pair is focused on interactions with others. In a mastery state, we want to feel powerful, in control and dominant, whereas in a sympathy state we focus on caring, supporting and connecting. The negativist-conformist pair centres on rules and norms and in the negativist state, we are motivated to oppose these and value freedom and change. In the conformist state, we are motivated to maintain rules and norms and focus on belonging through conforming. The autic-alloic pair is focused on relationships and whether, in the autic state, we want to fulfil or own needs, or, in the alloic state, we want to fulfil others’ needs. We experience combinations of metamotivational states from different pairs (e.g., alloic sympathy, when we are motivated to support and care for others) but do not experience states from the same pair simultaneously (e.g., negativist and conformist). We frequently reverse between states within each pair but prefer to spend time in one state from each pair. This tendency is termed dominance and is how reversal theory views personality, although not as a fixed, inherent trait, but as a disposition that is open to modification. Reversal theory also proposes the importance of additional motivational constructs. First, arousal avoidance and arousal seeking, where, respectively, the individual seeks a peaceful state and avoids problems or challenges, or seeks intense feelings and stimulation, including problems and challenges. Second, optimism and pessimism, characterised, respectively, by hope that things will turn out positively, and an expectation for things to turn out badly. Finally, arousability and effortfulness, described, respectively, as a tendency to be easily emotionally aroused, and a tendency to apply oneself to achieving goals even during difficulties.

Reversal theory (Apter, 2001) makes predictions about the relationship between motivational constructs and well-being through its concept of psychodiversity. Psychodiversity refers to the experience of multiple metamotivational states rather than consistently experiencing the same metamotivational states. As each state contributes to fulfilling different universal needs, failure to experience the full range of states is detrimental to well-being. For instance, constantly striving to meet the achievement and future-oriented needs of the telic state offers no opportunity to experience the playful paratelic state, and, being stuck in specific states can result in negative emotions, such as anxiety in the telic state, detrimentally affecting well-being and coping (Apter, 2013). Only one study has so far supported psychodiversity and its link with indices of well-being (i.e., psychological need satisfaction; Thomas et al., 2018). Lack of psychodiversity is characterised by inflexibility of motivational experience. We propose that individuals who demonstrate extreme dominance in multiple motivational states, and as a result are likely to more consistently remain in their preferred motivational states, will report lower well-being than individuals who demonstrate no extreme dominances. Thus we carried out an indirect test of psychodiversity based on extreme dominance (see Kuroda et al., 2015).

1.2. Reversal theory research on personality and health-related outcomes

Research has identified links between motivational style and dominance and various health-related variables, including stress responses, exercise, drug use, risky sexual activities, use of energy drinks, eating pathology, and social and emotional need fulfilment. Table 1 presents a summary of this research, notably only one (Lustig & Cramer, 2015) has indirectly measured well-being and in a specific context. Thus there is a need for studies that explore the use of reversal theory for advancing understanding of the links between personality, well-being and coping. The present research is the first study to examine the role of reversal theory motivational constructs (Apter, 2001) for predicting well-being and coping during a global crisis.

1.3. Hypotheses

Our hypotheses were:

1. well-being will be positively predicted by telic, conformist, alloic, sympathy, optimism, and arousal avoidance dominances;
2. well-being will be positively predicted by telic, conformist, alloic sympathy, optimism, effortfulness, and, arousal avoiding motivational styles, and, will be negatively predicted by arousability;
3. coping will be positively predicted by paratelic, negativistic, autic mastery, optimism, and, arousal seeking motivational styles, and, negatively predicted by effortfulness and arousability, and,
4. coping will be positively predicted by paratelic, negativist, autic mastery, optimism, and, arousal seeking motivational styles, and, negatively predicted by effortfulness and arousability, and,
5. well-being and coping will be significantly higher in individuals with no extreme dominances than those with multiple extreme dominances.

2. Materials and methods

2.1. Participants

Participants were 149 individuals residing in the UK, aged 16 to 79 years, including 89 females and 58 males (2 non-responses). At the time of responding, the majority had not contracted COVID-19 (n = 140), nor had anyone in their household (n = 135), were currently working from home (n = 104), lived in households of 2–4 people (n = 123), without school-aged children (n = 106), and were not home-schooling children (n = 112).

2.2. Procedures

The College Research Ethics Committee granted study approval and the research adhered to the British Psychological Society ethical principles. Participants were recruited via email and social media campaigns during May/June 2020 which was a period of lockdown in the UK. The invitation email included a link to the survey which provided an information sheet requiring informed consent prior to completing the online survey, described below.

2.3. Measures

Demographic details included: age group, sex, household size, number of school-aged children living at home and the number being home-school, occupational status, personal and household COVID-19 status. Personality was assessed using the Motivational Style Profile (MSP; Apter et al., 1998) which measures metamotivational dominance and characteristics using 70 items. Respondents provide responses using a 6-point Likert type scale, anchored by 1 = Never and 6 = Always. Its 14 subscales each comprise 5 items and measure the following motivational characteristics: telic, paratelic, negativism, conformity, arousal avoiding, arousal seeking, autic mastery, autic sympathy, alloic mastery, alloic sympathy, optimism, arousability, and effortfulness. Metamotivational dominance scores are calculated for telic, negativism, optimism, arousal avoidance, autic, and mastery dominance. Thus an individual’s motivational profile indicates their motivational styles (e.
Table 1
Summary of reversal theory research examining predictors of health-related outcomes.

| Authors and date                  | Participants and context      | Health-related outcomes                                                                 | Findings                                                                 |
|-----------------------------------|------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Kuroda et al. (2011)              | Telic and paratelic dominant individuals performing leg extension exercise | Stress, indicated by tension in passive muscle during exercise                      | Telic dominant individuals displayed muscle tension in passive muscle during stressful exercise conditions. No tension was observed in paratelic dominant individuals. |
| Buddington and McDermott (2012)   | Undergraduate students       | Resistance to health messages about cannabis use                                        | Resistance was positively predicted by rebelliousness (negativism) and negatively predicted by autic mastery.       |
| Lafreniere et al. (2013)          | Older adolescents            | Illicit drug use and risky sexual activities                                            | Proactive rebelliousness (a form of negativism) was positively related to illicit drug use and risky sexual activities. |
| Segatto and Lafreniere (2013)     | High and low frequency exercisers | Exercise frequency                      | Paratelic dominance higher in high frequency exercisers compared with low frequency exercisers. Negativism was positively related to an inability to stop using energy drinks. |
| Ianni and Lafreniere (2014)       | University students          | Energy drink use                                                                       | Autic sympathy was positively related to eating pathology in females.                                                |
| O’Neill and Lafreniere (2014)     | University students          | Eating pathology                                                                       | Autic sympathy was positively related to eating pathology in females.                                                |
| Lustig and Cramer (2015)          | Pet owners                  | Social, practical and emotional need fulfilment from pet ownership                      | Arousal avoidance and telic dominances predicted social and emotional need fulfilment. Alloic mastery predicted practical and emotional need fulfilment. Effortfulness predicted practical and emotional need fulfilment. Optimism, negativism, arousal avoidance and alloic sympathy predictors of all three types of need fulfilment. |
| Rahman et al. (2018)              | Male and female exercisers   | Exercise length, type and consistency                                                  | Exercise length was positively predicted by mastery dominance in males and negatively by autic dominance in both males and females. Exercise type was positively predicted by telic and autic dominance in males and by autic dominance in females. Mastery and negativist dominance negatively predicted |
Table 2
Categorisation thresholds for dominance groups.

| Metacategorisation pair                  | Mean | SD  | Upper threshold | Lower threshold |
|-----------------------------------------|------|-----|-----------------|-----------------|
| Telic - Paratelic                       | 4.57 | 5.12| ≥ 9.69 (TD; n = 26) | ≤ – 0.55 (PD; n = 21) |
| Negativist - Conformist                 | –9.07| 6.13| ≥ – 2.94 (ND; n = 24) | ≤ – 15.20 (CD; n = 19) |
| Optimist - Pessimist                    | 7.09 | 8.24| ≥ 15.33 (OD; n = 22) | ≤ – 1.15 (PED; n = 23) |
| Arousal avoid – Arousal seek            | 2.81 | 6.23| ≥ 9.05 (AAD; n = 22) | ≤ – 3.42 (ASD; n = 23) |
| Mastery - Sympathy                      | 0.07 | 3.89| ≥ 3.96 (MD; n = 22) | ≤ – 3.82 (SD; n = 23) |
| Autic - Alloic                          | –4.79| 3.90| ≥ 0.89 (AUD; n = 20) | ≤ – 8.69 (ALD; n = 21) |

TD = Telic dominant; PD = Paratelic dominant; ND = Negativist dominant; CD = Conformist dominant; OD = Optimist dominant; PED = Pessimist dominant; AAD = Arousal avoidance dominant; ASD = Arousal seeking dominant; MD = Mastery dominant; SD = Sympathy dominant; AUD = Autic dominant; ALD = Alloic dominant.

Results

3. Results

As shown in Table 3, and according to Ursachi et al. (2015), most measures have at least acceptable reliability (Cronbach’s α = 0.6–0.7) whilst some demonstrate very good reliability (α ≥ 0.80).

3.1. Motivational characteristics, well-being and coping

Well-being was significantly, albeit not strongly, correlated with all motivational characteristics apart from arousal avoidance, negativism, conformity, autic mastery and autic sympathy. Similarly, small but significant correlations were evident between coping and all motivational characteristics apart from conformity, alloic mastery, alloic sympathy and arousal avoidance.

Table 4
Correlations between wellbeing, coping and motivational characteristics and dominances; (n for Wellbeing, n for Coping); ***p < 0.01, **p < 0.05, *p < 0.1

Motivational construct | Well-being | Coping
--- | --- | ---
Telic (145, 146) | 0.20* | 0.21* |
Paratelic (146, 146) | 0.36*** | 0.29** |
Arousal avoiding (146, 146) | –0.13 | –0.13 |
Arousal seeking (146, 146) | 0.22* | 0.25** |
Negativism (146, 146) | 0.10 | 0.31** |
Conformity (146, 146) | –0.07 | –0.07 |
Autic mastery (146, 146) | 0.14 | 0.20** |
Autic sympathy (146, 146) | –0.14 | –0.17** |
Alloic mastery (146, 146) | 0.17* | 0.13 |
Alloic sympathy (146, 146) | 0.21* | 0.02 |
Optimism (145, 146) | 0.65** | 0.37** |
Pessimism (146, 146) | –0.59** | –0.37** |
Arousal ability (145, 146) | –0.34* | –0.28* |
Effortfulness (146, 146) | 0.18* | 0.17* |
Telic dominance (146, 146) | –0.10 | –0.07 |
Optimism dominance (146, 146) | 0.68** | 0.41** |
Negativism dominance (146, 146) | 0.12 | 0.21* |
Autic dominance (145, 145) | –0.19* | –0.07 |
Mastery dominance (146, 145) | 0.20* | 0.22* |
Arousal avoidance dominance (145, 146) | –0.22** | –0.23** |

*** p < 0.01, **p < 0.05, *p < 0.1.

3.2. Motivational dominance, well-being and coping

Apart from telic, mastery and negativist dominances, the remaining dominances shared significant relationships with well-being, displaying low to medium correlations. Coping was not related to autic and telic dominance but shared small, significant relationships with all other dominances.

Optimism, mastery and autic dominance were significant predictors of well-being, accounting for 53% of its variance (Model $R^2 = 0.53$; $F(3, 141) = 53.79$, $p < 0.01$), mostly predicted by optimism dominance (50%). Optimism dominance was a positive predictor, and mastery and autic dominances were negative predictors of well-being, although mastery did not independently add to the variance in well-being (see Table 5). Coping was positively predicted by optimism and negativist dominance, accounting for 22% of its variability (Model $R^2 = 0.22$; $F(2, 142) = 19.45$, $p < 0.01$; see Table 5) with the majority predicted by optimism dominance (19%).

Well-being was significantly higher in participants belonging to 0 dominance groups (n = 25) than those belonging to 4 or 5 dominance groups (n = 16): t(18.12) = 2.12, p = 0.048. The former group mean was 49.84 ± 6.11 and the latter was 41.44 ± 15.09. Coping did not differ between the 0 (n = 32) and 4/5 dominances (n = 21) groups: Z = –0.40, p > 0.05 (mean = 14.38 ± 2.23 and 14.20 ± 3.53, respectively).

4. Discussion

This study explored the value of motivational constructs described in reversal theory (Apter, 2013) for predicting well-being and coping during a global health crisis when people’s lifestyles, work and social
has affected the capacity to plan and engage in some purposeful activities (e.g., work, competitions, volunteering). This also provides a potential explanation for the finding that effortfulness, telic and arousal avoiding dominances did not predict well-being, although this was hypothesised. The lack of predictive power of conformity is at first surprising given that the situation required strict adherence to rules. Possibly though this in fact rendered conformity irrelevant as everyone was compelled to conform, regardless of their degree of conformity.

Although not all predictors of coping were supported, optimism (and by extension pessimism) negativism, paratelic motivation and low arousability significantly predicted coping as hypothesised. Optimism is needed to approach problems positively and is associated with adaptive coping (Sinclair & Wallston, 2004), and low arousability will likely enable the cognitive processing needed for tenaciously approaching problems with adaptive coping. This latter relationship possibly helps to explain the lack of support for arousal seeking as a predictor of coping, although this contradicts our hypothesis. Resilience coping also involves creatively addressing problems (ibid) therefore it is logical that higher levels of coping are associated with greater negativism, a willingness to deviate from norms and conventions and with higher levels of paratelic motivation and a willingness to be spontaneous. This does not, however, correspond with the finding that paratelic motivation was not a significant predictor. Considering the focus on personal agency in our measure of resilience coping, it is surprising that effortfulness, autic and mastery motivations and dominances did not predict coping. Possibly this could be because of the lack of personal control and agency presented by the pandemic, and therefore under normal circumstances, this relationship would be evident. It is clear that future studies are needed when the pandemic has ended to enable us to discern if the findings here are upheld in normal circumstances or if a different pattern of relationships is identified.

Higher levels of well-being observed in people with no extreme dominances compared with those with multiple extreme dominances suggest indirect support for the link between psychodiversity and well-being, adding to initial evidence (Thomas et al., 2018). Based on this, examining dominances independently from each other, as in the present study, might not provide a full account of their influence. Instead, our data suggest the need to use a composite profile of dominances, as Apter et al. (1998) suggest. Although Apter (2013) suggests that psychodiversity is associated with enhanced coping in a dynamic environment, coping did not differ in relation to number of dominance group affiliations. Tentatively, we suggest that experiencing different states helps to maintain well-being but not coping because the pandemic was under mass, not personal control. Future research that untangles these issues would appear to be important.

Results from this study support established relationships that personality shares with well-being and coping (e.g., Carver & Connor-
Smith, 2010; Lucas, 2018) and illustrate that looking beyond the Big Five Personality Dimensions (Costa Jr. & McCrae, 1992) might further elucidate personality factors that are related to these variables. Importantly, as reversal theory proposes that dominances are tendencies rather than traits, and that all individuals can spend time in all metamotivational states, regardless of whether or not they are aligned with their own dominances, means that people can be encouraged to spend time in states that are most associated with enhanced well-being and coping. 

Direct comparison with previous research using reversal theory is limited as this research focused on specific health-related behaviours and cognitions whereas we focused on general well-being and coping. In addition, previous work has not always considered the full range of motivational styles and dominances, unlike our study. Regardless, our findings extend existing research supporting the role of reversal theory (Apter, 2001) constructs in predicting important health-related variables (e.g., Boddington & McDermott, 2012; Ianni & Lafreniere, 2014; Lafreniere et al., 2013; Lustig & Cramer, 2015; O’Neill & Lafreniere, 2014; Rahman et al., 2018; Segatto & Lafreniere, 2013). Our data tentatively indicate that motivational styles might be more influential predictors than motivational dominances, which also appeared to be the case in Lustig and Cramer’s (2015) study, as only telic and arousal avoidance dominances were significant predictors. Although within different contexts, the outcomes of both studies are well-being oriented, thus future research is needed to identify if this phenomenon is replicated.

5. Conclusion

Our findings indicate that the motivational constructs proposed within reversal theory’s structural phenomenological framework are useful for predicting well-being, and, to a lesser degree, coping. To optimise well-being, in line with the concept of psychodiversity, we should encourage the experience of a wide range of motivational states. Those people with extreme dominances, who are likely to spend the majority of their time in preferred motivational states, thus might benefit from actively inducing reversals to their non-preferred states. Recently, authors have discussed the feasibility of self-induced reversals (e.g., Apter, 2013; Thomas et al., 2018) including methods to do so (Desselle & Apter, 2013) such as the threat of performance evaluation and imagery (e.g., Hudson & Day, 2012; Legrand & Thatcher, 2011). However, more research is needed across the whole range of motivational states, to illustrate their efficacy. Within the context of a shared global crisis, people reporting higher well-being displayed the following motivational profile: paratelic, optimistic, alloic sympathy, low arousability, pessimism and low arousal seeking, with optimism and alloic symmetry dominance. Those reporting optimism and negativist dominance, high negativist, paratelic and telic motivations, and low arousability and pessimism displayed higher levels of resilience coping. These motivational profiles support their adaptive value for well-being and coping in such a situation, thus we might suggest encouraging their experience in similar situations.

5.1. Study strengths, limitations and future research

This study was conducted within a specific crisis, including only a UK based sample with internet access. Thus, future research should explore whether these findings are replicated and can be generalised to other samples, adverse contexts and to non-adverse situations. Also, as our study was correlational, we cannot state with certainty that encouraging these motivational experiences will lead to enhanced well-being and coping: longitudinal studies are required to explore this. If confirmed, studies need to establish if interventions that manipulate motivational states do lead to enhanced well-being and coping. In addition, this study used a proxy measure of psychodiversity, thus, to further advance theory, future research needs to measure metamotivational states. Nevertheless, by predicting well-being and coping using reversal theory motivational constructs (Apter, 2001), this study makes a novel contribution and extends the line of inquiry beyond the Big Five Personality Dimensions (Costa Jr. & McCrae, 1992).

CRediT authorship contribution statement

Joanne Hudson: Conceptualization, Methodology, Investigation, Resources, Writing – original draft. Yusuke Kuroda: Conceptualization, Investigation, Resources, Visualization, Writing – review & editing.

Patrick C. Morel: Formal analysis.

Declaration of competing interest

None.

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