Does Formulation of Service Users’ Difficulties Improve Empathy in Forensic Mental Health Services?

Helen Wilkinson, DClinPsy\textsuperscript{a}, Richard Whittington, PhD\textsuperscript{a}, Lorraine Perry, DClinPsy\textsuperscript{b}, and Catrin Eames, PhD\textsuperscript{a}

\textsuperscript{a}Institute of Psychology Health and Society, University of Liverpool, Liverpool, UK; \textsuperscript{b}Mersey Care NHS Foundation Trust, Liverpool, UK

ABSTRACT

The culture and values of the National Health Service and the staff that work within it have received much attention over recent years. The erosion of empathy and compassionate care toward service users has been highlighted. Psychological formulation may be one way that clinicians can understand their service users more fully, which could lead to an improvement in the empathy they express toward them. The current study investigates the effect of presenting client information in a psychological formulation on self-reported empathy in staff in medium and low secure forensic mental health services. One hundred and fifty-four staff were recruited via convenience sampling to complete self-report questionnaires measuring burnout (Maslach Burnout Inventory), state (Adapted Interpersonal Reactivity Index), and trait (Empathy Quotient) empathy. No significant difference in state empathy scores was observed among the staff in the formulated group when compared with the unformulated group. Linear multiple stepwise regressions demonstrated that trait empathy and burnout significantly predicted variance in state empathy, but the information format was not significant. It was concluded that mode of presentation in this instance did not influence the degree of empathic concern staff expressed toward a hypothetical client in a vignette. General levels of empathy and degree of burnout superseded this effect. Further research is needed on how adjusting client information formats might enhance empathy among professionals.

KEYWORDS

Burnout; forensic health care staff; formulation; state empathy; trait empathy

Empathy in forensic mental health services

The culture within the UK National Health Service (NHS) has come under increasing scrutiny following the exposure of failings within a series of hospital trusts (e.g., Mid Staffordshire and Southern Health). Subsequent reports investigating these incidents, such as the Francis report (Francis, 2013), highlight the need for a change within NHS culture, with a renewed focus on patient-led and compassionate care. In response, there has been a greater emphasis on values-based staff recruitment, whereby prospective
employees holding values congruent with the NHS constitution (e.g., dignity, respect, and compassion) are sought (Health Education England, 2014). Within this context, empathy is often referred to as a skill that NHS trusts seek in individuals (Nash, 2013).

Empathy is cited in the literature as being central to the role of health care professionals (Walker & Alligood, 2001). It is an important component of the relationship between staff and service users, and is crucial to ensuring the delivery of quality care (Yu & Kirk, 2009). Research indicates that empathy is vulnerable to erosion by factors including cultural and environmental influences (Alligood & May, 2000). In a longitudinal study with first-year nursing students, Ward, Cody, Schaal, and Hojat (2012) found a significant decline in empathy for participants who had a greater exposure to client interaction. These findings were mirrored in studies conducted with third-year medical students (Bellini & Shea, 2005; Hojat et al., 2009). These studies indicate empathy is a dynamic construct and therefore attention to empathy levels within staff should not only focus on recruitment, but maintain prominence throughout their employment.

In mental health services, staff can regularly be exposed to, and be expected to manage, behaviors such as self-harm and aggression. Working within a forensic setting has been highlighted as particularly challenging for staff. The perceived threat of violence felt by staff within these settings has been hypothesized to lead to increased stress (Joseph, 1993), thereby affecting the ability of staff to empathize with service users. Sandhu, Rose, Rosthill-Brookes, and Thrift (2012) discussed the specific challenges staff face when working with service users who had committed sexual or sexually related offenses. Within this context, their qualitative study found that staff reported difficulties in empathizing with this population.

Despite the challenges staff face, Polson and McCullom (1995) highlight the importance of empathy within a forensic mental health setting. They discuss the positive effects of therapists’ empathy toward a service user on the service users’ subsequent ability to empathize with themselves and their victims. This highlights the clinical relevance of investigating mechanisms for increasing and facilitating empathy within staff.

**Empathy: State and trait**

Carl Rogers’ (1957) definition of empathy was developed from a humanistic approach within the field of psychology. He referred to empathy as the ability to accurately perceive the internal emotions and meaning of another as if one were the person. Despite decades of research, reviews of the literature on empathy in nursing have highlighted continuing inconsistencies in the definition and components of the construct (Duan & Hill, 1996; Kunyk & Olson, 2001).

In a concept analysis of nursing literature on empathy between 1992 and 2000, Kunyk and Olson (2001) summarized varying definitions of empathy into five key conceptualizations (trait, state, caring, communication process,
and special relationship). As with previous research (Evans, Wilt, Alligood, & O’Neil, 1998), this paper will focus on two of these conceptualizations: trait and state.

Trait empathy is considered in the literature to be a natural, innate ability that cannot be taught (Kunyk & Olson, 2001); for example, toddlers appear to be able to relate to the happiness or sadness of others. Definitions in this category focus on empathy being a human capacity, with an ability to share another person’s experiences (Dracup & Bryan-Brown, 1999). Alligood (1992) discusses how trait empathy is an involuntary sharing of another person’s emotions. Therefore trait empathy is a raw, basic human reaction of one person to another. Although this conceptualization posits that empathy cannot be taught, Kunyk and Olson (2001) highlight that it can be identified and reinforced in individuals.

In addition to trait empathy, Alligood (1992) distinguishes state empathy, which is also included in the five conceptualizations by Kunyk and Olson (2001). State empathy is defined as being a learned skill, which is primarily comprised of cognitive and behavioral components. This has been the focus of the nursing literature, and has also been referred to as clinical empathy (Hojat et al., 2009). State empathy encompasses concepts of trait empathy in that the clinician is able to accurately perceive the emotions of the service user. However, it moves beyond this, focusing on the clinicians’ ability to maintain objectivity, and focus on the service user. Rogers’ (1957) definition would fit within this conceptualization with his reference to the importance of maintaining the “as-if” quality.

The inference that state empathy can be taught or learned in relation to professional practice (Alligood, 1992) is supported empirically by evidence for empathy-enhancing programs with nursing and medical students (Batt-Rawden, Chisolm, Anton, Flickinger, 2013; Brunero, Lamont, & Coates, 2010). In a review of empathy education in nursing, Brunero et al. (2010) found 11 out of 18 studies reported statistically significant increases in empathy as a result of empathy education. The most successful interventions were shown to be experiential role-plays, where students were given opportunities to reflect upon and understand service users’ emotional states in a controlled environment. The majority of this research has focused on students within health care professions; however, the Francis report (Francis, 2013) has highlighted the potential loss of empathy within qualified staff already working within the NHS. Research investigating interventions that support or increase empathy in qualified clinicians would be beneficial, given the association with clinical outcomes and quality of care.

One potentially promising approach that has been highlighted in the literature is psychological formulation. A greater, more meaningful understanding of service users’ difficulties, which can be facilitated by psychological formulation (Boyle & Johnstone, 2014), has been highlighted in the literature as essential to empathic interaction (Mercer & Reynolds, 2002).
Staff reports within forensic mental health settings have supported this, stating that an awareness of service users’ early life experiences helped their empathic response toward those with a sexual offending history (Sandhu et al., 2012).

**Formulation: Possible effects on empathy**

Johnston and Dallos (2013) define psychological formulation as a summary of the service users’ difficulties, based on psychological theory, which informs intervention. One outcome of developing a formulation with service users is to aid their understanding of their difficulties; which can serve to enhance staff understanding. This was supported by Berry, Barrowclough, and Wearden (2009) who found that staff reported a greater understanding of service users’ difficulties following formulation with service users with psychosis.

The Division of Clinical Psychology (DCP, 2011) highlights the strengths of formulation to promote collaborative working, and improve relationships between clinicians and service users.

Formulation is also cited in the literature as a powerful systemic intervention (Kennedy, Smalley, & Harris, 2003). This may be particularly relevant in Cognitive Analytic Therapy approaches where evidence has shown that formulations with team members can enable staff to understand their own interactions, adaptive and maladaptive, with service users (Carradice, 2004; Kerr, 1999). In this approach, staff roles and relationships with service users can be encompassed within the service user’s formulation to help staff identify the role they play in the relationship. Further research has reported the positive effects of formulation on staff understanding of service users, and subsequent relationships (Hewitt, 2008; Lake, 2008; Summers, 2006).

Although formulation has been shown to have a positive effect based on self-report from staff perspectives (Hewitt, 2008; Lake, 2008; Summers, 2006), the evidence from service user perspectives is inconclusive. Some research denotes the clients’ experience of formulation as being helpful, encouraging, and reassuring (Evans & Parry, 1996). However, qualitative interviews provide evidence that service users can experience formulation as overwhelming and worrying (Chadwick, Williams, & Mackenzie, 2003). Completing a comprehensive assessment and formulation can be a daunting process for service users who may not have discussed or fully comprehended the adversity they have experienced.

The British Psychological Society’s Division of Clinical Psychology (BPS, DCP) Good Practice Guidelines on the Use of Formulation (2011) summarize how there is emerging evidence for the value of formulation within multidisciplinary working, but that further research is required to assess the impact of formulation on quality of care and team functioning. The role of
formulation in potentially enhancing or maintaining levels of state empathy in staff is therefore worth exploring.

**Burnout: The potential influence on empathy**

In addition to the mode by which staff are presented with information when working with service users, there are a number of additional factors that might influence their capacity to empathize. Some examples include gender, interpersonal style, culture, environment, and personality (Alligood & May, 2000). In particular, burnout has been associated in the nursing and medical literature with empathy (Ferri, Guerra, Marcheselli, Cunico, & Di-Lorenzo, 2015) and will be examined in the current study.

Maslach (2003) defines the experience of burnout as involving physical depletion, feelings of helplessness, negative self-concept, and negative attitudes toward work, life, and others. The Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981) measures burnout across three dimensions: emotional exhaustion, depersonalization, and personal accomplishment. Burnout is linked with increased rates of job turnover and stress-related absences, and health care workers are documented to be at increased risk of suffering burnout (Bender & Farvolden, 2008; Morse, Salyers, Rollins, Monroe-DeVita, & Pfahler, 2012). It is not surprising, therefore, that burnout has been widely researched in health care settings with an increasing focus on mental health care workers.

In some of the literature, empathy has been negatively correlated to level of perceived burnout in health care staff (Lamothe, Boujut, Zenasni, & Sultan, 2014; Lee, Song, Cho, Lee, & Daly, 2003; Torres, Areste, Mora, & Soler-Gonzalez, 2015; Walocha, Tomaszewski, Wilczek-Rużyczka1, & Walocha, 2013). Zenasni, Boujut, Woerner, and Sultan (2012) have proposed (given the evidence for a negative association between burnout and empathy), that interventions to increase clinicians' level of empathy with service users may serve to prevent or protect against burnout. This suggestion provides supplementary support for investigating mechanisms that can increase clinician empathy levels.

This study aims to address the identified gap in the literature by exploring the effect of formulation on the state empathy of clinical staff toward a hypothetical service user in a forensic service. Furthermore, the study will look at the impact of other independent variables on empathy (e.g., age of participants, years of experience, and level of burnout).

**Hypotheses**

Formulated client information will be associated with an enhanced empathic response to a hypothetical service user case compared to nonformulated information. Where participants have a greater psychological understanding of the client via formulation, they will endorse a more empathic response toward the service user.
Method

Participant characteristics

Ninety-nine (64%) of the total sample were female, with males representing (35.7%) of participants (see Table 1). There was an even spread of participants across the first four age categories spanning 18–55 years. Eleven participants (7.1%) were in the 56 years and above category. The most frequent category was 26–35 years. One hundred and thirty-five participants (88%) described themselves as White; other ethnic groups represented 12% of the sample, including participants who identified themselves as being mixed ethnicity, Black, Indian, Asian, Mauritian, and Iranian.

The majority of participants worked on medium secure forensic wards ($n = 110, 71\%$) in full-time roles ($n = 145, 94\%$). The majority of participants ($n = 119, 77\%$) reported that they had more than five hours’ face-to-face contact with patients per shift. Eleven percent of participants reported having 1–3 hours or 3–5 hours of face-to-face contact with patients per shift. The largest proportion of participants ($n = 58, 78\%$) reported having up to 3 years of experience; however, the second highest reported level of experience was 15 years or more ($n = 27, 18\%$).

Sampling procedures and ethics

Ethical and sponsorship approval (UoL001107, 12/01/2015) was granted by the University of Liverpool. Research and Development Committee. Approval was also granted from the local services where recruitment took place (ref: 867, 09/04/2015; ref: 15/06, 08/04/2015; ref: 2015/11, 10/06/2015). Prior to commencing recruitment, the researcher liaised with the relevant ward and service managers to agree on the best time to access potential participants that would have minimal impact on service users.

One hundred and fifty-four clinical staff were recruited face-to-face, from three low and medium secure forensic services in the North West of England, via convenience sampling. All of the hospitals included in the study provided care for male and female patients presenting with a variety of difficulties including self-harm, psychosis, interpersonal difficulties, and emotional regulation difficulties. “Clinical staff” were defined as those who had face-to-face contact with service users. Staff that did not have face-to-face contact with service users (e.g., administrative staff) were excluded from the study. Due to their extensive training in formulation, psychologists were also excluded from taking part in the study. One hundred and ninety participants agreed to take a questionnaire pack; however, 154 participants (81% response rate) gave written consent and returned fully completed questionnaires (recruitment process shown in Figure 1). Demographic categories were dichotomized to ease data interpretation and reporting (see Table 1).
Participants were recruited on site by the researcher or a link researcher based within the respective services. Staff were told verbally about the project, and if they showed interest they were given an information leaflet further outlining the procedure, aims, and confidentiality arrangements of the study. The participants’ right to withdraw was explained and written consent gained. Participants were given a questionnaire pack that included the measures described below (see Measures and Covariates section) and either a formulated or unformulated vignette, which were alternately allocated. The content of the pack was arranged in a specific sequence. Participants completed the MBI (Maslach & Jackson, 1981) and EQ-SF (Wakabayashi et al., 2006) first and then were asked to read through the vignette and complete the IRI-A (Davis, 1983) in relation to the client presented in the vignette.

Following completion of these questionnaires, the participants were invited to ask any questions relating to the study and to request relevant

Table 1. Frequencies and percentages of participants in the unformulated and formulated groups according to demographic variable categories.

| Demographic Variable | Total N (%) | Unformulated N (%) | Formulated N (%) | Chi Squared $X^2$ | p  |
|----------------------|-------------|--------------------|-----------------|-------------------|----|
| Age                  |             |                    |                 |                   |    |
| 18–35                | 77 (50)     | 38 (50)            | 39 (50)         | .000              | 1.00|
| 36+                  | 77 (50)     | 38 (50)            | 39 (50)         |                   |    |
| Gender               |             |                    |                 |                   |    |
| Male                 | 55 (35.7)   | 27 (35.5)          | 28 (35.9)       | .002              | .962|
| Female               | 99 (64.3)   | 49 (64.5)          | 50 (64.1)       |                   |    |
| Years of Experience  |             |                    |                 |                   |    |
| 0–7                  | 83 (54)     | 38 (50)            | 45 (57.7)       | .917              | .338|
| 8–15+                | 71 (46)     | 38 (50)            | 33 (42.3)       |                   |    |
| Role                 |             |                    |                 |                   |    |
| Nurse                | 64 (41.6)   | 32 (42.1)          | 32 (41)         | .419              | .811|
| Support worker       | 72 (46.8)   | 34 (44.7)          | 38 (48.7)       |                   |    |
| Other                | 18 (11.6)   | 10 (13.2)          | 8 (10.3)        |                   |    |
| Hours of contact     |             |                    |                 |                   |    |
| 0–3                  | 18 (11.6)   | 10 (13.2)          | 8 (10.3)        | .314              | .575|
| 3+                   | 136 (88.4)  | 66 (86.8)          | 70 (89.7)       |                   |    |
| Security             |             |                    |                 |                   |    |
| Low                  | 44 (28.6)   | 21 (27.6)          | 23 (29.5)       | .065              | .799|
| High                 | 110 (71.4)  | 55 (72.4)          | 55 (70.5)       |                   |    |
| Service              |             |                    |                 |                   |    |
| A                    | 40 (26)     | 20 (26.3)          | 20 (25.6)       | .180              | .914|
| B                    | 47 (30.5)   | 22 (28.9)          | 25 (32.1)       |                   |    |
| C                    | 37 (43.5)   | 34 (44.7)          | 33 (42.3)       |                   |    |
| Employment           |             |                    |                 |                   |    |
| Full-time            | 145 (94.2)  | 72 (94.7)          | 73 (93.6)       | .981              | .612|
| Part-time            | 6 (3.9)     | 2 (2.6)            | 4 (5.1)         |                   |    |
| Bank                 | 3 (1.9)     | 2 (2.6)            | 1 (1.3)         |                   |    |
| Ethnicity            |             |                    |                 |                   |    |
| White                | 135 (87.7)  | 64 (84.2)          | 71 (91)         | 5.014             | .286|
| Mixed                | 5 (3.2)     | 3 (3.9)            | 2 (2.6)         |                   |    |
| Black                | 7 (4.5)     | 3 (3.9)            | 4 (5.1)         |                   |    |
| Asian                | 3 (1.9)     | 2 (2.6)            | 1 (1.3)         |                   |    |
| Other                | 4 (2.7)     | 4 (5.3)            | 0               |                   |    |
support. However, none of the participants requested any further support. Additionally, they were given the opportunity to enter the prize draw as remuneration for their time by providing their contact details that were stored separately to their data.

**Sample size and power**
A minimum sample size target was calculated for multiple linear stepwise regression utilizing G*Power 3 software (Faul, Erdfelder, Lang, & Buchner, 2007). Alpha was set at .05 and power at 80%, based on Cohen’s guidelines for behavioral sciences (Cohen, 1992) with a medium effect size anticipated; this yielded a target sample size of 92 with 5 predictors.

**Measures and covariates**

Demographic information was collected via a self-report questionnaire designed by the researcher. Information collected included participant age,
gender, ethnicity, years of experience, role, hours of face-to-face contact with service users, and whether they were full-time or bank members of staff.

**Interpersonal reactivity index—adapted**

State empathy and empathic responses to the formulated–nonformulated case presentation was assessed using an adapted version of the Interpersonal Reactivity Index (IRI-A; Davis, 1983). The original IRI is based on a multidimensional model of the process of empathy, with four distinct subscales: (a) perspective taking (PT), in line with traditional definitions of cognitive empathy; (b) fantasy (FS), which measures a tendency to identify with fictional characters; (c) empathic concern (EC), capturing the respondent’s ability to have warm feelings towards other; and (d) personal distress (PD), which measures the occurrence of the respondent’s experience of others’ negative experiences.

Each of these subscales are represented by seven items (subscale score range = 0–28) with a total of 28 items (total score range = 0–112). Respondents are asked to indicate along a 5-point Likert scale the extent to which statements describe them (0 = does not describe me well, 4 = describes me well). Internal consistency is reported at ($\alpha = 0.70–0.78$) and test–retest reliability is reported over a 60–75-day period ($r = 0.61–0.81$; Yu & Kirk, 2009).

Although it was not designed specifically for use in a health care context, studies within a health care setting have reported good structural integrity and convergent validity. This suggests that the measure has the potential for use specifically with health care professionals (Evans, Stanley, & Burrows, 1993; Yarnold, Bryant, Nightingale, & Martin, 1996). Konrath (2013) highlighted how the subscale scores should not be totaled, advising that researchers utilize the individual subscales pertinent to their study. Additionally, Baron-Cohen and Wheelwright (2004) highlighted the lack of clarity surrounding the FS subscale in relation to its measurement of empathy; therefore, the FS subscale was omitted. Items from the other three subscales (PT, EC, and PD) were modified to relate specifically to the service user presented in the case vignette (total score range = 0–84). This adaptation enabled the measure to capture a participant’s state empathy toward the service user in the vignette. Each of the adapted subscales (EC, PT, PD) in this study were found to have Cronhach’s alphas of ($\alpha = .61; \alpha = .65; \alpha = .73$) respectively.

**The empathy quotient–short form**

Trait empathy was assessed using the Empathy Quotient–Short Form (EQ-SF; Wakabayashi et al., 2006). This is a self-report questionnaire designed to measure empathy in adults. It is based on the original 60-item questionnaire developed by Lawrence, Shaw, Baker, Baron-Cohen, and David (2004).
Respondents are asked to indicate along a 4-point scale the degree to which they agree with a series of 40 statements (e.g., “I find it hard to know what to do in a social situation”). Response options are four statements: strongly agree, slightly agree, strongly disagree, or slightly disagree. Responses are either reverse or normally scored, with two points for a strong empathy response, one point for a slightly empathic response, and zero if the response is nonempathic. A total score is calculated (range = 0–80) and then interpreted as falling within one of four categories: (a) lower than average (0–32); (b) average (33–52); (c) above average (53–63); and (d) very high (64–80). These categories indicate the respondents’ self-reported ability to understand the feelings of others and respond appropriately.

Although originally designed for clinical applications, the measure has been utilized in general populations, with studies reporting higher scores in females than males (Baron-Cohen & Wheelwright, 2004), a finding which has been replicated cross-culturally (Berthoz, Wessa, Kedia, Wicker, & Grezes, 2008; Preti et al., 2011; Wakabayashi et al., 2007). The short form of this questionnaire was utilized to reduce the burden for participants. This was deemed important, as clinical staff would be completing the study within working hours and ethically it was important to reduce the possible impact on service users. Principal component analysis and factor analysis has suggested that the short form version is highly correlated with the full-scale versions (Wakabayashi et al., 2006). The current study reported good internal consistency in this measure (α = .83).

**Maslach Burnout Inventory**

The Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981) is a 22-item self-report questionnaire measuring three identified dimensions of burnout: emotional exhaustion (EE), depersonalization (DP), and lack of personal accomplishment (PA) along a 7-point response scale. Respondents are asked to indicate the frequency with which they experience the feeling specified in each item. The frequency scale ranges from “never experienced” (0) to “experience such feelings every day” (6). A separate score is calculated for each of the subscales. These are categorized as low, medium, or high according to predetermined cutoff scores for each subscale (EE, low = 0–16, medium = 17–26, high = 27–54; DP, low = 0–6, medium = 7–12, high = 13–30; PA, low = 0–31, medium = 32–38, high = 33–48). High scores on the EE and DP subscales and a low score on the PA subscale is deemed to be suggestive of high levels of perceived burnout. This measure is considered to be the gold standard for measuring burnout (Dorez, Novara, Sica, & Sanavio, 2003; Schutte, Toppinen, Kalimo, & Schaufeli, 2000). The subscales demonstrate high internal consistency (EE, α = .90; DP, α = .79; PA, α = .71) as reported by Maslach and Jackson (1981). In this study the subscales of EE and PA demonstrated good internal consistency (EE, α = .88; PA, α = .71); however, alpha was shown to be lower (α = .60) for the DP subscale.
**Design**

A between-groups design was adopted. Exposure to formulated client information (yes/no) was the main independent variable, with state empathy as the dependent variable.

**Experimental manipulations**

**Case vignette**

A case vignette was designed and two versions were developed to reflect a formulated and an unformulated presentation. The case was developed during a focus group with qualified clinical psychologists based in a forensic setting. Details about the client in the vignette were based on an amalgamation of clients with whom the clinical psychologists had worked, and considered representative of a typical service user within a secure forensic setting. Both versions described the same hypothetical service user. The “unformulated” version detailed basic information including age, index offense, current medications, diagnosis, presenting difficulties, gender, and reason for referral. The “formulated” version provided additional information about the hypothetical service user’s background and history from a psychological stance.

**Data analysis procedure**

Variable distributions were first examined for parametric assumptions testing. Results of the Shapiro-Wilk test for normality (Field, 2013) indicated that the scores on the EQ-SF (Wakabayashi et al., 2006) and the EC subscale of the adapted IRI (Davis, 1983), were normally distributed ($W = .991, p = .416; W = .985, p = .048$). Tests of normality on the EE, DP, and PA subscales of the MBI (Maslach & Jackson, 1981; $W = .962, p = .000; W = .899, p = .000; W = .968, p = .001$) and the PD and PT subscales of the IRI ($W = .970, p = .002; W = .967, p = .001$) indicated that the data were significantly different from that of a normal distribution. Where assumptions were not violated, parametric tests were conducted. Basic descriptive analysis was then conducted on all variables, and bivariate associations between individual independent variables and the dependent variable (state empathy) were examined. The main hypothesis was tested by examining whether the independent variables (formulation yes/no, burnout—MBI Scores, trait empathy—EQ-SF scores) predicted the variance in the dependent variable (state empathy, IRI-A scores) using multiple regressions (SPSS version 21; International Business Machines [IBM], 2012). Assumptions for regressions were met.
Results

Descriptive statistics: Exploring formulated and unformulated groups

The profiles of the two groups (formulated and unformulated) were examined to ensure that they were comparable. Categories for the demographic variables were dichotomized in order to aid comparison between the two groups (see Table 1). There was an equal split of participants across both age categories, and the majority of participants were female. No significant differences in age or gender for the two groups were observed (see Table 1).

The highest number of participants were support workers, followed by qualified nurses. The rest of the sample consisted of other health care professionals including social workers, occupational therapists, and medical doctors (see Table 1). No significant differences were observed between the groups for participant role. Participants allocated to the unformulated and formulated groups were almost equally split in each of the respective services, level of security, and hours of contact. Chi-squared analysis demonstrated no significant differences between the groups; therefore, these variables were not entered as predictors in the regressions (see Table 1).

Participant’s years of experience in the unformulated group were spread equally across the subcategories. However participants in the formulated group were not equally spread (see Table 1). A chi-square test of independence was calculated comparing the formulated and unformulated groups across the demographic variables in Table 1. No significant association was found between the unformulated and formulated groups on any of the demographic variables, and therefore they were assumed not to be predictive of the dependent variable (trait empathy, IRI-A), so were not inputted into the regression model.

Independent variables: Burnout (MBI) and trait empathy (EQ-SF)

There were no significant differences between the groups on the MBI (Maslach & Jackson, 1981) subscales. Scores on the EE subscale fell within the Medium range, and scores on the PA and DP subscales fell into the high and low ranges respectively (further information in Table 2).

Means and standard deviations were comparable between the groups on the EQ-SF (Wakabayashi et al., 2007), with no significant difference found (see Table 2). These scores score fell within the high end of the “average” empathy category.

Dependent variable: State empathy (IRI-A)

Means and standard deviations were comparable between the groups on the IRI-A subscales (see Table 3). An independent samples t-test revealed no
significant differences between groups on state empathy (as measured by the IRI-A), indicating that exposure to the formulated client information did not significantly affect participants’ scores. The formulation group were examined separately and dichotomized as having high (N = 45) or low empathy (N = 33) based on the median EQ-SF score. Those with high trait empathy demonstrated significantly higher empathic concern on the IRI-A (high trait empathy M = 21.93, SD = 3.67; low trait empathy M = 18.42, SD = 4.03; t(76) = 4.01, p < .001) but there was no statistically significant difference in perspective-taking or personal distress.

**Regressions**

Two separate stepwise multiple regressions were performed (see Table 4) with IRI-A subscales (EC and PT) as the dependent variable in each case. In each of the two analyses the predictor variables were MBI subscales, trait empathy (EQ-SF), vignette formulated–unformulated (see Table 4). A third analysis with PD subscale as the dependent variable did not meet the assumptions of the regression due to the weak correlations with the independent variables.

As shown in Table 4, for empathic concern, only trait empathy (EQ-SF; Wakabayashi et al., 2007) and the personal accomplishment subscale of the MBI (Maslach & Jackson, 1981) predicted a significant amount of the variance (F...
Type of vignette (formulated or unformulated) was not a significant predictor of empathic concern. For perspective taking, trait empathy (EQ-SF) was again significant, alongside the depersonalization subscale of the MBI. There was no evidence of an effect for personal accomplishment. Type of vignette (formulated–unformulated) was not a significant predictor of this subscale of state empathy ($F[1,151] = 6.105, p < .01, R^2 = .075, R^2 adjusted = .063$). The emotional exhaustion subscale of the MBI was not predictive of scores on either dependent variable. Correlations were performed on IRI-A subscale scores and EQ-SF score for participants in the unformulated (control) group, to further explore the relationship between trait and state empathy. Significant positive correlations were found between EQ-SF and two of the IRI-A subscales PT ($r_s = .256, p < .05$) and EC ($r = .382, p < .05$). This demonstrated a small but significant association between trait empathy and two subscales of state empathy. The PD subscale of the IRI-A was negatively correlated with EQ-SF; however, this was not significant ($r_s = -.094, p > .05$).

**Discussion**

This research addressed a gap in the empirical literature by investigating whether the mode of presentation (formulated–unformulated) of client information affected the level of state empathic response from staff in a forensic service, toward a hypothetical service user presented in a vignette.

**Exploring the hypothesis**

It was hypothesized that formulated client information would be associated with an enhanced state empathic response from staff when compared to responses from staff that read nonformulated information. Theoretical evidence suggested that, where participants had a greater psychological
understanding of the client via formulation, they would endorse a more empathic response toward the service user.

In order to test the hypothesis, a comparison was made between participants’ scores on the adapted Interpersonal Reactivity Index (IRI-A) in the formulated and unformulated groups. Mean scores and standard deviations were comparable across both groups on all of the IRI-A subscales, with no significant difference in scores between groups. This suggested that exposure to the formulated client information did not significantly affect clinicians’ expressed state empathy. Therefore no statistical evidence was found to support the alternative hypothesis, and the null hypothesis has been accepted. It is interesting that staff who were generally empathic, as demonstrated by scoring high on trait empathy, also demonstrated greater empathic concern in response to the vignette but had no greater capacity for perspective taking, nor did they report more personal distress than staff who were generally less empathic. This may suggest a healthy resilience among this group where they can feel therapeutically concerned for a client without being overwhelmed by the client’s distress.

There have been no previous studies investigating the effect of psychological formulation on staff state empathy toward service users. As discussed in the introduction, previous empirical research (Berry et al., 2009) suggested that psychological formulation, through the mechanism of increasing staff understanding, could increase staff empathy toward service users. The current research did not find evidence to support these findings. Unlike Berry et al. (2009), the current research did not evaluate the level of understanding staff had of a service user pre- and postformulation. In addition, the method of providing the formulation to staff differed in the two studies. In the current research, participants were presented with already formulated service user information; conversely, in the study conducted by Berry et al. (2009), participants attended hour-long formulation meetings. The brevity of the formulation provided in the current research was important practically to reduce participant burden; however, this may have reduced the potential impact of the formulation. It is likely that there are many additional factors that will moderate the relationship between trait empathy and responses to the vignette and one of these might be a capacity for reflexivity in therapeutic practice when working with distressed clients (Procter, 2009). The relatively unstructured vignette involving a formulation may inherently appeal to staff who are open to reflecting on their practice and this could potentially account for more of the variance in the relationship than those included in the model here. This factor was not examined in the study here, but future studies could include it as a variable and test whether it adds to the model developed here.

As outlined in the introduction, qualitative research with staff from a forensic learning disability service has reported that an awareness of service users’ early
life experiences helped to increase their empathic response (Sandhu et al., 2012). It may be that the findings of the current study are not comparable with this research due to the use of different methodologies. Qualitative research gleans rich, descriptive data (Patton, 2005), which may have been lost through the numeric, categorical, self-report measures utilized in the current study. Additionally, this study did not cite formulation as the method by which staff learnt about the service users’ early life experiences. Instead this information was shared as part of a therapeutic group. Therefore the written format of the information about early life experiences in the current study may be considered to be detached from the hypothetical service users’ emotions, or personal delivery of this information, which may explain the difference in findings.

The regression analysis was performed in the current study to investigate whether the way information was presented to participants (e.g., formulated–unformulated) would significantly predict participant scores on the subscales of the IRI-A. Preliminary descriptive statistics revealed that the groups did not significantly differ across the range of demographic variables. Therefore, no additional independent variables were added into the regression analysis. Despite previous research (Bellini & Shea, 2005; Hojat et al., 2009) indicating a negative association between years of experience and empathy, this finding was not replicated in this study. These previous studies had a longitudinal design and were conducted with medical students. The current study adopted a single time point sampling method and different population, which may explain the difference in findings.

While formulation mode was not a significant predictor of state empathy, two other factors were associated with a more empathic response to the vignette. Trait empathy was shown to be predictive of both subscales of the IRI-A, and there was a particular pattern of relationships between elements of burnout and elements of state empathy.

When considering the empathic concern (EC) subscale of the IRI-A, the variance in scores was significantly predicted by the total trait empathy score (EQ-SF; Wakabayashi et al., 2007) and the personal accomplishment (PA) subscale of burnout. Empathic concern is discussed by Davis (1983) as an emotional state, where respondents have the ability to feel warm toward others. It could be perceived as similar to Alligood’s (1992) conceptualization of trait empathy, which encompasses an involuntary sharing of others’ emotions. The similarities demonstrated in the definitions of these constructs could account for the variance in empathic concern (EC) being predicted by trait empathy. The link between low personal accomplishment and EC in the current study is also supported by the literature: Maslach (2003) conceptualizes low PA as indicative of burnout, which in turn has been linked to lower levels of empathy (Ferri et al., 2015).

The Davis (1983) conceptualization of state empathy includes perspective taking in addition to empathic concern. The regression analysis indicated
that EQ-SF (trait empathy) was also predictive of this IRI-A subscale. However, the depersonalization (DP) subscale of the Maslach Burnout Inventory ([MBI], Maslach & Jackson, 1981) was predictive in this instance. Paris and Hoge (2009) define depersonalization as an unfeeling and impersonal response toward service users, while perspective taking could be seen as the opposite: the clinicians’ ability to take on the view of another person (Davis, 1983). It could be hypothesized that a clinician’s ability to take the perspective of a service user (PT) may be explained or predicted by the degree to which they hold negative attitudes toward them (DP), thus explaining the predictive relationship observed in the current study.

This does not support the work of Paro et al. (2014), who found that personal accomplishment, rather than depersonalization, was predictive of the variance in perspective taking. Despite obvious differences between the studies in terms of location (Brazil) and target population (medical students), it is not clear why their findings would have differed from the current study.

Although Alligood (1992) proposed that trait and state empathy were two distinct and unique concepts, Kunyk and Olson (2001) highlighted little difference between definitions, with overlap between the two conceptualizations. These included the ability to accurately perceive the clients’ situation, thoughts, and feelings. The weak yet significant correlations observed in the current study between the PT and EC subscales of the IRI-A and trait empathy measure may indicate that there is an association between the constructs, but they are not the same. This provided evidence to support the theoretical argument of Kunyk and Olson (2001).

**Clinical implications**

Methodological issues in the current study (e.g., the brevity of the formulation provided and the written format of the formulation) may explain the lack of effect observed between the groups (formulated–unformulated). Previous studies reporting the positive effects of formulation for staff have utilized interactive experiential methods such as formulation meetings. The findings of the current study could support the clinical importance of clinical psychologists actively involving the staff team in generating and discussing the formulation rather than relying on a written version within service users’ notes. This demonstrates the importance and value of clinical psychologists being situated within multidisciplinary teams, where they are able to promote and support staff understanding of service users through the active process of formulation and reformulation.

Although the current research did not find support for the experimental hypothesis, evidence was found to support the partial association between trait and state empathy. This finding holds clinical significance in that NHS trusts could screen prospective employees for trait empathy with a view to
providing training for state empathy as part of their induction program. The aim here would be to keep naturally empathic people able to remain empathic in a clinical context throughout their working life.

**Strengths and limitations**

This study was conducted following a predetermined protocol, with approval from the relevant research and ethical committees. The use of well-validated tools enabled comprehensive exploration of a complex construct, with strong clinical relevance. This, in addition to the real-world setting with busy practitioners on the ground, aids the ecological validity and reliability of the findings. In addition, the study exceeded the minimum number of participants required for adequate power to detect a medium effect size. However, there are limitations that should be considered when interpreting the findings.

The key limitation of this study was the brevity and format of the formulation. The decisions regarding the format of the formulated vignette and study design were made to ensure that participant burden was minimized. It was important to reduce the possible impact of completing the study on staff work load, so as to prevent any subsequent impact on service user care.

This study adopted a quantitative research design. Whilst this numerical approach affords the opportunity to complete statistical analysis to derive potentially generalizable findings, empathy and formulation are complex nuanced constructs that are difficult to fully capture using predefined structured instruments. Indeed, Yu and Kirk (2009) comment on the lack of satisfactory measures of empathy within nursing literature. Therefore, a mixed-methods design utilizing qualitative interviews may have enriched the numerical data. Qualitative exploration could have enhanced understanding of the nature of the significant relationships, and further explored staff’s perception of the utility of formulation. Alongside this, Paro et al. (2014) highlighted the problem of social desirability bias in self-report measures of empathy, such as those used in the current study. Qualitative interviews may have given the researcher the opportunity to explore these issues; however, a mixed-method approach was beyond the resources of this project.

**Areas of future research**

It was not within the remit of the current study to validate the adapted version of the IRI. The authors acknowledge the potential limitations this may have on the findings of the study, and therefore future research validating this version of the measure or developing a bespoke measure would be beneficial. This would also address a previously identified gap in
the literature highlighted by Yu and Kirk (2009), who stated that improvements needed to be made in the measurement of empathy, as there was currently no gold-standard tool. A larger study could include development of a more detailed case vignette and support more focused involvement of staff when responding to it, and thus be in a better position to bring about a difference among those exposed. In relation to clinical implications, the lack of effect observed from the implementation of the formulation may be due to the two-dimensional written formulation utilized in the study. Future studies could compare the effect of live-interactive formulation with staff members versus the written-formulation format that was utilized in the current study.

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